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POLICY RESEARCH INITIATIVE

# HORIZONS



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## Regulatory Strategy

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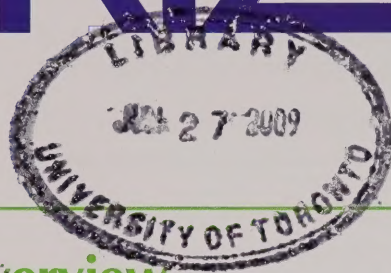






POLICY RESEARCH INITIATIVE

# HORIZONS



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## Welcome to Regulatory Strategy

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**I**n March 2008, a group of senior officials spent an evening discussing regulatory strategy with several scholars and experts. We agreed easily that significant forces were reshaping the field and on the need to reinvent what many see as “old government” to ensure its vital role in shaping Canadian society continues.

There is a growing role for regulation in shaping our actions with respect to the environment. A series of events over the last year brought the issues of food security and safety to the forefront. The more recent financial crisis has also underscored not only the importance of regulatory oversight but the increasing need for a global framework. With so many challenges, there are questions about the continued relevance of practices that have worked well but may have become obsolete. At the same time,

we wonder whether our science which informs regulations can manage the level of complexity now confronting us.

The internationalization of risks, emerging technologies, environmental concerns, new governance instruments, and the rise of activist non-government non-business stakeholders are dramatically modifying the context in which regulations are created and implemented.

It is with the aim of bringing some insight and starting to address questions raised during an evening conversation that this issue of *Horizons* was developed.

*Horizons - Regulatory Strategy* offers articles on critical issues across a wide range of subjects germane to regulatory development. The goal is to encourage discussion and possibly generate new approaches.

The questions examined can be clustered under a set of themes: What forces are shaping and changing the regulatory landscape? What, is happening in regulatory governance? What are new developments in institutional capacity?



Two authors explore drivers of change by addressing the questions:

- Why is the need for international risk governance increasing? How can it be best supported within the context of national governments' own policies?
- How will the emergence of private politics affect the policy environment and the strategy of governments? How do governments promote transparency, quality, and utility?

Christopher Bunting (foreword by the Hon. Donald J. Johnston), argues that a responsive and participative risk governance function is vital to address public concern about risks and their management. Numerous emerging global issues, such as nanotechnology and bioenergy, require an integrated approach to risk assessment and management across all governments and among all sectors of society. This has led to the development of a risk framework by the International Risk Governance Council (IRGC) to help decision makers better understand and manage risk. The big follow-up question is what are Canada's options as an active international player?

Daniel Diermeier explores the influence of private politics on the public sector's ability to govern effectively. Private politics consists of the use of market mechanisms by activist groups to change business practices rather than the more traditional regulations. However, private politics is a double-edged

sword for governments that can work at odds with existing public policy. Government must ask how it can influence the rules of private politics? In an ideal scenario for government, activist groups would become an efficient mechanism of the democratic process.

Three authors look at governance and attempt to answer:

- Can a regulatory agenda and budget provide more effective prioritization and management?
- How should regulators develop strategies to rank the risks they face and are trying to mitigate?
- What are the models and criteria for gauging the effectiveness of a regulatory proposal challenge function in Canada?

Bruce Doern explores the concept of regulatory budgets and agendas. A regulatory budget would set limits on the costs of new regulation on the private sector with a view of maximizing the regulatory net benefits. Internationally, the United Kingdom has come close to this type of approach with a commitment to create a regulatory budget in its 2008 budget. Professor Doern argues that a regulatory agenda and budget could contribute to achieving regulatory benefits at least cost, with greater

transparency for Canadians, and better allocation of science-based capacity and resources.

Richard Belzer examines the challenge function. In addition to promoting transparency, quality, analytical rigour, and utility for decision making, challenge functions are needed because regulatory bodies and stakeholders often disagree about certain fundamental issues. Several models (e.g., centralized review, persuasion and co-option, peer review, separation of policy and analytical functions, competitive supply) and principles (e.g., clarity of purpose, institutional capacity, independence, timing of intervention, transparency, the extent of challenge function authority) are being examined and assessed.

Baruch Fischhoff and Granger Morgan outline the potential role of

risk ranking to better understand risk. While the list of risks to the health and safety of Canadians may seem endless, the resources available to governments are bound by the requirements of many competing priorities. These limited government resources require focusing attention on the risks that pose the

greatest threat, or that generate the most public concern. Hence, risk ranking can help regulators set effective priorities.

**What forces are shaping and changing the regulatory landscape, what is happening in regulatory governance and what are new developments in institutional capacity.**

Our last group of articles deals with institutional capacity.

- How far has the use of benefit cost analysis taken public policy and why should these types of evaluation approaches be instituted more broadly?
- What are the reasons for using quantitative regulatory analysis and market-based instruments? How has Canada performed in their use vis-à-vis other countries?
- Why would economists, analysts, and policy makers be interested in qualitative analysis when quantitative measures yield better information?

Arnold Harberger provides an overview of benefit-cost analysis. Responsible decisions on any proposal involve the weighing of benefits and costs in terms of the impacts on both a well-defined balance sheet and on welfare. Over time, significant strides have extended the reach of benefit-cost analysis into new territory, such as health policy, the environment, and infrastructure planning. But many challenges to applying benefit-cost analysis still exist, for example in areas of social policy, such as education or poverty. There is a potent role for benefit-cost analysis, but further gains will be realized only through additional hard work. The best way to promote objective analysis is to encourage professionalism and transparency (e.g., public regulatory evaluations).

Vic Adamowicz examines the role of market-based instruments and regulatory analysis in Canada. He argues that, over time, the performance of Canada has declined relative to other OECD countries in terms of regulatory analysis, and it has only recently begun embracing the apparent global wave of incentive-based policies. The Treasury Board Secretariat's current efforts in improving the institutional framework (i.e., guidance documents) and in enhancing analytical capacity within the federal government will improve Canada's position.

Andrew MacDonald and Robert Raucher discuss the contributions that qualitative analyses may have on complex decision making. While there are a number of reasons for using quantitative analyses for proposed regulatory proposals, including increased transparency and accountability in decision-making and enhanced analytical capacity, a well-conducted qualitative study can often play an essential analytical role in areas where costs and benefits can only be assessed with significant uncertainty.

We hope that this *Horizons* will encourage readers to think creatively about the future role of the regulatory function and that these ideas will contribute to an improved framework for decision making. 🍏



## André Downs

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Regulation is a key component of the policy tool kit of governments. As with other components of the tool kit, such as taxation and spending, regulatory approaches have adapted to a rapidly changing environment. Over time, regulatory development strategies evolved with economic conditions, technological change, and emerging social priorities. For example, the emergence of increasingly globalized markets highlighted the need for better international regulatory co-operation (e.g., the regulatory co-operation component of the Canada-US Security and Prosperity Partnership). Greater interest and involvement of stakeholders in regulatory initiatives led to sustained efforts toward greater transparency and more

regulatory outcomes. Among others, new forms of risks arising from new technological developments (e.g., biotechnology, nanotechnology, alternative medicines), the emergence of new types of governance mechanisms (e.g., private politics, corporate social responsibility), and renewed concerns about the impact of regulations on productivity and competitiveness (e.g., climate change challenges) challenge the ways government develops and implements regulations.

### Traditional Drivers for Reform: Accountability, Transparency and Effectiveness

Over the last several decades, many countries around the world focused on reforming their regulatory systems in various ways. As in other countries, Canada has in particular also been active in modernizing regulatory processes and approaches to ensure that they are streamlined, effective, efficient, and accessible to Canadians.<sup>1</sup>

As a result of significant efforts to enhance the accountability, transparency, and effectiveness of the regulatory system, the Canadian regulatory process is now characterized by an inclusive approach that relies extensively on consultation and the involvement of stakeholders, increased reliance on quantitative analysis (e.g., benefit-cost analysis, regulatory impact assessment, and distributional impacts), improved instrument selection, and outcome-based approaches. As a result, decision makers are better informed

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# Regulatory Strategy

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extensive consultation (e.g., the new Cabinet Directive on Streamlining Regulations - 2007). Concerns about the increasing administrative burden on businesses, and the potential negative impact on competitiveness has led to initiatives to reduce the regulatory burden (e.g., the Paperwork Burden Reduction Initiative - 2007).

Today's economic and social realities have placed additional pressures on the performance expectations surrounding

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1 Examples of initiatives that occurred in the last two decades include the Departmental Regulatory Review, the External Advisory Council on Smart Regulations 2004, and the Cabinet Directive on Streamlining Regulations 2007.

and equipped to select a course of action on justifying the need for action, choosing appropriate instruments, and minimizing negative competitiveness impacts. In particular, those efforts have improved regulatory analysis, evaluation, and accountability capacities to the extent that human health and environmental risks mitigated or abated by regulation are more often quantified and even monetized.

In addition, regulators have generally moved away from “command-and-control regulations” to more outcome-based approaches. Instead of regulations specifying how industries must change their operations, the trend is toward outlining a performance objective where the compliance approach used is chosen by the regulated. For example, the *Regulations Respecting the Sulfur Content in Gasoline*, which was first introduced in 1998, outline the maximum level of sulfur content concentration in gasoline, but do not prescribe any specific process changes.

Also, more concern is placed on understanding the dynamic implications for industry and employment patterns as well as accounting for the regional distribution of the impacts across Canada. That is, in addition to examining the advantages and disadvantages of a proposed regulation, more consideration is placed on how projected benefits and costs are distributed among the population (e.g., plant closures, job losses).

### **Emerging Drivers: Globalization, Nature of Risks and Regulatory Governance**

Policy research efforts to enhance accountability, transparency, and effectiveness must continue to be a focus of governments. However, Canada and its trading partners are adapting to emerging drivers that are changing the environment in which governments operate and creating new challenges for regulators.

The recent evolution of globalization, with its increasing emphasis on trade in services and in tasks, focused further attention on the role of regulations as a potential determinant of productivity and competitiveness, because of their impact on the international movement of goods, services, and factors (i.e., capital and labour), and on innovation. An increased emphasis on international regulatory co-operation has been a key response to this challenge, but the complex ramifications between regulations and globalization will require further efforts to ensure the adequacy of the regulatory function to the new international distribution of labour and tasks.

The changing nature of technological, economic, and social risks also constitutes a key emerging driver that requires a re-examination of the role of regulations and regulatory processes. Rapid technological change and new technological platforms (biotechnology, nanotechnology etc.) are creating new forms of risks that need to be understood and managed through regulatory frameworks. Economic agents

(i.e., firms, managers, workers, consumers) need to adapt to an increasingly fluid economic landscape, and their capacity to adapt is largely determined by the regulatory environment in which they operate.

Another important emerging driver is the emergence of new regulatory governance mechanisms. Rapid changes in information and communication technologies facilitated the involvement of stakeholders in different mechanisms that aim at altering the behaviour of economic and social agents for the purpose of attaining economic and social outcomes traditionally sought through directive regulatory instruments, such as regulations specifying the content of products or the way services are rendered. In today's environment, economic agents and stakeholders can mount strategies, pursue alternative legal actions, implement boycotts, or launch information campaigns to influence behaviour and ensure that chosen outcomes are reached. This has a major impact on how regulations are developed and implemented, and it offers new avenues to regulators to attain economic and social objectives.

New approaches to regulatory governance acknowledge the reality that globalization and the flourishing information communication technologies have transformed “rule making” from the unique purview of domestic governments to potentially the collective responsibility of numerous international governments, communities, interest groups, and citizens. This reality necessitates an emphasis on under-



standing inter-dependencies and developing approaches to fostering co-operation and collaboration domestically and internationally.

How regulators respond to these emerging challenges and opportunities will be critical for the functioning of economies and societies, and a key ingredient of the well-being of citizens. In this issue of *Horizons*, a number of articles explore these themes to inform and support Canada's regulatory community in assessing the potential impacts of these trends on the regulatory process.

Beyond the topics in this issue, however, a number of emerging complexities are surfacing (or in some cases re-surfacing) that may deserve special focus in the research work plans of government and non-government policy research organizations. These emerging complexities may require additional attention to ensure that the Government of Canada remains at the forefront of regulatory governance.

One complexity may be the understanding of strategic considerations regarding Canada being a "first mover" on introducing major regulatory initiatives. Notwithstanding small economy and competitiveness arguments that have been addressed empirically in the literature, clarifying the conditions

when moving first would be beneficial to Canadian strategic medium-term policy planning.

Similarly, another possible driver for change worth exploring further is the potential for governments to motivate other players to help achieve public policy objectives. While this strategy has commonly been used discreetly in government, a more structured look at the considerations of establishing more formal mechanisms to motivate other players would also be deserving of further policy research.

Another strategic response by government worth additional structured policy research is to better understand the potential impact of declaring the intention of providing government leadership to encourage actors in society to modify their behaviour voluntarily. These tactics have also been used routinely at all levels of government. Understanding the conditions where maximum success can be achieved using this tactic may be helpful in developing strategies.

Finally, while the analytical treatment of evaluating proposed regulatory options has been more and more encouraged over time (and achieving reasonable success) in Canada, attention to broader considerations of regulatory strategy and policy may have

been diverted as a result. That is, an interesting question worthy of policy research may be to explore the impact of having applied scarce government resources toward the technical analysis of risks and economic considerations at the expense of creating a gap in the strategic and forward-looking needs. 🌍

**Today's economic and social realities have placed additional pressures on the performance expectations surrounding regulatory outcomes.**



**Foreword by:**  
**The Honourable**  
**Donald J. Johnston**

Chair, International Risk Governance Council

**Article by:**  
**Christopher Bunting**

Secretary General, International Risk Governance Council

**Foreword**

These personal comments introduce the International Risk Governance Council (IRGC) to readers not familiar with the nature and purpose of this important non-governmental organization. In the following pages the Secretary General of the IRGC, Christopher Bunting, sets out in some detail the “modus operandi” of the IRGC and how it contributes to the understanding and governance of critical issues that must (or should) preoccupy policy makers around the world in both developed and developing countries.

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# The International Risk Governance Council, its Approach to Risk Governance and How Public Policy Could Benefit from Improved Risk Governance

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Currently, I am the Chair of the Board of Directors of this remarkable organization, which came into being in 2003 to fill a perceived gap in international public policy by identifying risks with

international implications and inadequate regulatory frameworks. I was invited to become a member of the founding Board when I was Secretary General of the OECD, a directorship I readily accepted because I saw important synergies between the OECD and the new IRGC. I especially liked the fact that it was not dominated by either corporate interests or government, but represented a healthy balance that was globally dispersed.

As a former politician and cabinet member at the federal level in Canada, I was very sensitive to the primary responsibility and role of government to ensure the safety and security of the public. This has been the case for centuries, but globalization and the rapid pace of scientific innovation has created challenges that exceeded anything we faced even in the early 1980s when I was the minister responsible for science and technology. This point became very evident to me shortly after joining the OECD in 1996.

To underscore that observation, think of genetically modified food (GMOs). Here, genetic material has been altered through genetic engineering, which is then transferred to an organism giving it new or different characteristics. Proponents saw this as a huge breakthrough promising, for example, a new generation of disease-resistant crops that, could be resistant to disease, and in some cases, to levels of drought and salinity, and would contribute to meeting the challenge of agricultural shortages.

Globalization meant that such products would enter the international trade of agricultural goods. Opposition to

GMOs was striking and immediate. Were they dangerous to human health? The environment? Why were they needed? It seemed that the global benefits to be derived from these extraordinary technologies could soon be destroyed, because of the absence of credible, independent, scientific judgment on the risks and benefits of GMOs and, hence, the appropriate regulatory framework that should be established to guarantee those benefits and mitigate those risks, if there were, indeed, risks.

As a veteran of the battles over GMOs, I was immediately attracted to the role of the IRGC, even arguing that had it existed at the time of the GMO debate

and controversy, we might have been spared that sad chapter and moved ahead with agreed upon regulatory frameworks for GMO crops around the world, which would have satisfied proponents and opponents alike.

I cite that example because it well illustrates the important role the IRGC must play, especially in areas of emerging technologies: synthetic biology, bioenergy, nanotechnology or carbon capture and sequestration (so essential to the climate change challenge) come to mind. Without the IRGC's independent assessments, some very promising technological developments could find themselves mired in ideological and political debates, while others

might create concerns for public health and safety which have not been identified.

I saw and see a close relationship to the OECD as important in this regard because through that channel, the outputs of the IRGC can find their way to decision makers from federal governments around the world. I hope we see ever-increasing participation from these decision makers at the IRGC. This would ensure a broader understanding of how different governments address these critical issues with the IRGC providing a platform for the comparison and exchange of best practices.

## About the IRGC

The establishment of the International Risk Governance Council in 2003, at the initiative of the Swiss government and the support of the OECD and several large companies including Electricité de France and Swiss Re, followed heightened public concern about risks and their management in the late 1990s. The cumulative impact of the BSE (Mad Cow Disease) crisis in Europe and particularly the United Kingdom, apprehension about genetic engineering, fears of the global failure of information technology systems (the "millennium bug"), and an increase in the frequency and severity of natural disasters created anxiety within society

and concerns for governments, regulators, and everyone involved in understanding and managing global risks.

The knowledge community – those responsible for providing the best scientific advice on which risk management decisions depend – were encountering difficulties in meeting the demands for factual certainty. Where this was clearly established, there were problems in communicating that knowledge to decision makers. Decision makers were themselves struggling with problems, such as

the burgeoning volume of data, the pace of technical and societal developments, and organizational and ownership changes affecting how, and by whom, risk decisions are made.

**The challenge of better risk governance lies in enabling societies to benefit from change while minimizing the negative consequences of the associated risks.**

The IRGC was created as an independent, international body to bridge the gaps between policy makers, business decision makers, academia and the public and, in so doing, act as the catalyst for improving risk governance strategies. The IRGC's founders<sup>1</sup> felt

that a new organization would be better able to do this than the many

1 The IRGC's founders were Donald J. Johnston, then Secretary-General of the OECD, Adolf Ogi, UN Special Adviser on Sport for Development and Peace and former president of the Swiss Confederation, Bennett Johnston, former US senator, Olaf Kübler, then President of the Swiss Federal Institute of Technology Zurich, Switzerland, KunMo Chung, then President of the Korean Academy of Science and Technology, and the World Business Council for Sustainable Development represented by its President, Björn Stigson.



**Figure 1**  
**The IRGC Risk Governance Framework**



existing risk-related institutions whose single sectoral, disciplinary, and geographic emphases made it difficult for them to undertake such a broad mandate.

More recent events confirm that risk governance remains of the utmost importance. For example, SARS spread rapidly through 27 countries and killed 774 of the 8,096 people infected, demonstrating the capacity of a new pathogenic virus to cause considerable health risks and have a substantial economic impact, including in Canada. There have been massive losses, both human and economic, from natural disasters, such as the tsunami of December 2004 and Hurricane Katrina in 2005 and, more recently, Cyclone Nargis and the massive earthquake in southwest China. The fragility of critical infrastructures was demonstrated in 2003 by the blackouts in the United States and Canada, and across Italy and other European countries.

There are concerns about maintaining secure energy supplies and developing sustainable sources of energy. Most prominent of all are those risks that derive from our changing climate, with side effects in many unanticipated areas. All such risks have rippling effects and secondary impacts, and they all exceed the capacity of any one country to manage them, reinforcing the need for an organization, such as the IRGC, to propose governance approaches with global validity.

### **IRGC and Risk Governance**

At the core of the IRGC's work is its approach to risk governance, fully explained in the IRGC's 2005 White Paper *Risk Governance – Towards an Integrative Approach*. Sound risk governance can minimize the inequitable distribution of risks and benefits between countries, organizations, and social groups, assure a thorough

consideration of risk-benefit and risk-risk trade-offs, avoid costly and inefficient regulations and, through taking appropriate account of public perceptions, retain public trust in the decision-making process.

Risk accompanies change. In most cases, the potential benefits and risks interconnect. The challenge of better risk governance lies in enabling societies to benefit from change while minimizing the negative consequences of the associated risks. The IRGC's Risk Governance Framework (illustrated in Figure 1) is designed to help decision makers both understand the concept of risk governance and apply it to their handling of risks. It comprises five linked phases: pre-assessment, appraisal, characterization and evaluation, management, and communication.

The IRGC's approach begins with risk pre-assessment: "framing" the risk in order to provide a structured definition of the problem and how it may be handled. Crucially, it captures and makes transparent the variety of issues that stakeholders and society may associate with a certain risk (or opportunity).

The main questions in pre-assessment are: What risks and opportunities are we addressing? Are there signs there is already a problem? Is there a need to act now? Who are the affected stakeholders? How do they view the problem? What existing scientific/analytical tools can be used to assess the risks? How do current legal/regulatory systems potentially affect the problem? What is the organizational capability of the relevant governments, international organizations, businesses, and people involved?

Risk appraisal develops the knowledge needed to decide whether a risk should be taken and, if so, how it can best be managed. Risk appraisal comprises both a risk assessment (a scientific assessment of the risk's factual, physical, and measurable characteristics including the probability of it happening) and a concern assessment (a systematic analysis of the associations and perceived benefits and risks that stakeholders, individuals, groups or different cultures may associate with it). The concern assessment is a particular innovation of the IRGC framework, to ensure decision makers consider how values and emotions influence how the risk is viewed.

Risk assessment asks: What are the potential primary damages or adverse effects? What is the probability of occurrence? How clearly can cause-effect relationships be established? What are the primary and secondary benefits, opportunities, and potential adverse effects? Concern assessment establishes the public's concerns and perceptions as well as the likely social response to the risk (or how it is managed). The experience of Shell when disposing of the Brent Spar platform illustrates the importance of this dimension.

The IRGC approach includes the separate phase of characterization and evaluation to ensure that evidence from scientific facts is combined with a thorough understanding of societal values when judging a risk to be acceptable (no risk reduction necessary), tolerable (worth pursuing with appropriate risk reduction measures) or, in extreme cases, intolerable (to be avoided).

**Figure 2**  
**Risk Governance in Context**



Such a judgment involves questions such as: What are the societal, economic, and environmental benefits and risks? Are there impacts on quality of life? Is there a possibility of substitution? If so, how do the risks compare? Do any stakeholders – government, business, or other – have reasons for wanting a particular outcome of the risk governance process?

All tolerable risks need appropriate and adequate risk management through measures to avoid, reduce, transfer, or retain the risks. Risk management includes generating, evaluating, and selecting appropriate risk reduction options as well as implementing the selected measures, monitoring their effectiveness and reviewing the decision if necessary.

Key questions in risk management include: Who is, or should be, responsible for decisions concerning the risk and its management? Have they accepted this responsibility? What risk

management options (technological, regulatory, educational, fiscal, etc.) are there? Do these options have secondary consequences? How should we evaluate these options? Do we need to co-operate internationally (for global or trans-boundary risks)? How do we ensure effectiveness in the long term (compliance, monitoring, adaptive management plans, etc.)?

Communication is important. It enables risk decision makers to ask the right questions of risk assessors. It allows stakeholders and the public to understand both the risk itself and their role in the risk governance process. If deliberately two-way, it gives them a voice. Communication also explains the rationale for the risk decisions and allows people to make informed choices about the risk and its management, including their own responsibilities. Effective communication is the key to creating trust in risk management.



**Figure 3**  
Using a Risk's Dominant Characteristic to Plan Stakeholder Involvement



As the dominant characteristics changes, so also will the type of stakeholder involvement need to change

Questions include: What are the needs and purposes of communication on this risk? How is information interpreted by those who receive it? How best can appropriate knowledge about the risk be conveyed to those affected by it? What is the degree of confidence in the risk management process? What has been and can be the role of the media?

The IRGC framework also stresses the broader organizational, institutional, political, economic, and social contexts that must be taken into account in risk-related decision making, illustrated in Figure 2.

For example, the organizational capacity of an organization or system (the capability of key actors in the risk governance process to fulfil their roles) and the political cultures (the governmental and regulatory styles

that define particular institutions or countries) are important in determining governance processes. Many governance deficits originate from the lack of an appropriate legal or regulatory framework. Alternatively, some regulatory structures overlap and compete with others, creating conflicts that complicate risk handling.

Also important are the degree of trust in the institutions responsible for risk governance and a country or organization's risk culture, which impacts on the level of risk tolerance (or risk aversion). There is a wide variety of risk cultures around the world and these require different management and communication methods.

The appropriate governance approach to a particular risk depends, in part, on the state and quality of knowledge

about that risk, particularly the clarity of the knowledge about cause-effect relationships. The IRGC places particular emphasis on this knowledge challenge and recommends categorizing the knowledge about a risk (not the risk itself) as being predominantly simple, complex, uncertain, or ambiguous. Doing so can assist both in designing risk management strategies and in planning stakeholder participation.

Simple risk problems have a clear cause-effect relationship and can be managed using a routine-based strategy. The benefits of regulatory action may be straightforward and uncontroversial (e.g., home fire safety).

Complexity refers to difficulties in identifying and quantifying causal links between a multitude of potential causal agents and specific observed effects. Examples include the risks of failures of large interconnected infrastructures and the risks of critical loads to, and losses of, sensitive ecosystems. Complex risks can be addressed on the basis of accessing and acting on the best available scientific expertise, aiming for a risk-informed and robustness-focused strategy.

Uncertainty refers to a lack of clarity or quality of the scientific data, or even its absence. Highly uncertain risks include many natural disasters, acts of terrorism and sabotage and the long-term effects of introducing genetically modified species into the natural environment. Uncertain risks are better managed using precaution-based and resilience-focused strategies, with the intention of applying a precautionary approach to ensure the reversibility of critical

**Effective communication is the key to creating trust in risk management.**

decisions and to increase a system's coping capacity to allow it to withstand surprises.

Ambiguity results from divergent or contested interpretations of the risk or data. Risks with high ambiguity include nuclear energy, food supplements, hormone treatment of cattle, and some aspects of nanotechnology and synthetic biology. Ambiguous risk problems require a discourse-based strategy, which seeks to create tolerance and mutual understanding of conflicting views and values with the goal of reconciling them eventually.

The IRGC also provides guidance on how best to implement the idea of involved stakeholders in the risk governance process. Inclusive governance is based on the assumption that all stakeholders have something to contribute to the process of risk governance and that their inclusion improves the final decisions rather than impedes the decision-making process or compromises the quality of scientific input. However, not all risks can be managed in this way and the IRGC suggests using the categorization of a risk – as predominantly simple, complex, uncertain, or ambiguous – as the basis for deciding on the appropriate level of stakeholder involvement in the process. (See Figure 3.)

While simple risks may require little consultation because of their routine nature, highly complex or uncertain risks may benefit from wider dialogue among, respectively, people with expert knowledge or all directly affected stakeholders. Highly ambiguous risks are

**The IRGC framework can also help detect current or potential deficits within the risk governance process. Some common deficits include:**

#### **In pre-assessment**

- Warning signals of a known risk have not been detected or recognized
- Different stakeholders may have conflicting views on the issue
- “Black swans” exist with no awareness of a hazard or possible risk

#### **In appraisal**

- There is a scarcity of scientific data about the risk and/or about people's concerns, or, if there is sufficient data, there is a failure to accept the data
- Low confidence exists in the data or the data interpretation
- There is a lack of attention to interdependencies and interactions with the system at risk

#### **In characterization and evaluation**

- Some stakeholders and their views are accidentally or deliberately excluded from the evaluation process
- There is a failure to make trade-offs explicit and hidden agendas are allowed in determining the outcome of the evaluation process
- Social needs, environmental impacts, cost-benefit analyses, and risk-benefit balances are overlooked

#### **In management**

- No entity is responsible for managing the risk, or several are and things “fall between the cracks”
- Short-term decisions are unsustainable or lead to further, secondary problems
- Decision makers fail to revisit a risk decision in the light of new knowledge

#### **In communication**

- Communication does not account for how different stakeholders receive and accept information
- Treating some people or organizations' concerns as irrelevant or irrational creates alienation
- A low level of trust exists in the decision-making process, the information given, or the communication channel

#### **In stakeholder involvement**

- An “authority knows best” approach and a deliberate refusal to seek or accept knowledge or to communicate with other interested parties leads the stakeholders with power to make the decisions, irrespective of the need for consultation and dialogue
- “Paralysis by analysis” occurs when the selection of an overly inclusive process leads to inertia or indecision



those for which wider stakeholder consultation is recommended. Effective stakeholder involvement should both ensure the risk-handling process is inclusive and responsive to those affected by it and maximize the acceptability of the decisions made.

Policy makers are often required to make decisions and take actions under considerable time pressure, with incomplete information and conflicting advice. Even in situations of knowledge deficit, decisions must be made and action taken. The IRGC's framework can assist in giving guidance, even in situations of high complexity, uncertainty or ambiguity.

### **Conclusion: The Benefits to Public Policy of Improved Risk Governance**

Nanotechnology and biofuels are examples of current policy issues where the IRGC's approach could be helpful to policy makers.

The potential benefits of nanotechnology are highly attractive, ranging from targeted drug delivery to environmental remediation. These benefits remain in the future, but nanotechnology applications are already on the market (some paints and sunscreens, for example). So new are many of the applications of nanotechnology that it has not yet been possible to assess their risks scientifically; in IRGC terms, there is high uncertainty. This uncertainty has created space for Friends of the Earth and others to call for moratoriums on the use of nanotechnology in, for example, foods. One of IRGC's recommendations (IRGC, 2007) is that policy

makers could help overcome this controversy by funding the necessary risk assessment studies particularly of commonly used nanomaterials and nanoparticles.

With crude oil prices having risen from below US\$40 a barrel in 2002 to over US\$140 in July 2008, many governments are encouraging the production and use of biofuels for transportation and heating. Oil security is indeed a policy imperative and biofuels appear to offer a short-term, if partial, remedy to what is emerging as one of the global economy's most pressing long-term problems. However, it is also clear that controversy surrounds the impact of current methods of biofuel production on society as a whole (including the fuel versus food trade-off) as well as the environment. (There appears to be no clear indication of the full life-cycle impact of biofuels on greenhouse gas emissions.) In taking the long-term view advocated by the IRGC's approach (IRGC, 2008), policy makers could perhaps be doing more to accelerate second-generation biofuel technologies to reduce the pressure on agricultural land. They could also send signals that current incentives aimed at existing technologies will cease once these technologies are superseded.

Both nanotechnology and bioenergy are new technologies that offer global benefits and whose associated risks may also have global consequences. The risk governance of both requires a harmonized approach by governments across the world – integrated risk governance in its truest sense. The IRGC and its approach to risk governance will actively work to make this happen. ☺

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## Abstract

**N**ow more than ever, companies are being held responsible for social change that is a consequence of their business activities. The actors are part of a modern class of activists who use refined techniques to exert influence. Non-governmental organizations (NGOs) are increasingly foregoing traditional politics and turning to “private” politics to change the practices of firms and industries. Rather than the traditional route of relying on public institutions to instate regulation, “private politics” uses market mechanisms to change business practices rather than the more traditional route of relying on public institutions.

government. While activists typically target a specific firm, their goal is usually a change of practice in the entire industry through actions that affect firm or industry reputations. Targets are therefore selected for maximal impact rather than because of their specific causal responsibility for a particular offensive practice. In turn, this requires companies to assess the risk of being targeted and to develop proactive strategies. Consequently, private politics strategies are characterized by significant strategic complexity in areas such as target selection, campaign strategies, the role of the media and public opinion, proactive measures by firms, and the choice of target: a firm or an industry. I conclude by discussing the potential normative consequences of private politics, how the emergence of this mechanism may lead to new policies and initiatives, and how these developments may change the role of governments.

In today’s rapidly globalizing world, government regulation is increasingly being both supplemented and replaced by the private politics mechanism. Private politics is distinct from traditional “public” politics. Instead of being driven by public institutions regulating private behaviour, private politics is driven by activist groups and consumers. They use a variety of tools to exert social, environmental, and democratic change on corporations. In many cases, activist campaigns aim to undermine the reputation and eventually the profitability of firms that are seen as acting irresponsibly.

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# “Private Politics” : Public Activism as an Alternative Regulatory Mechanism?’

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This paper focuses on the key components of private politics — activist strategies such as corporate campaigns and firm strategies (including self-regulation or corporate social responsibility) — and their effects on

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1 Short version of the Governing the Global Economy: The Role of Private Politics working paper #40.



Activists choose to use this mechanism for a variety of reasons. First of all, through private politics, activists are able to bring about change very quickly. Depending on the period of the election cycle, politicians may not feel that they need to bend to activists. In contrast, corporations are held constantly accountable for their actions by investors and other stakeholders. Furthermore, activist groups are often at a significant disadvantage when it comes to funding of lobbying activities, compared with the corporations that they seek to fight. But while private politics is a separate mechanism from public policy, the two are not mutually exclusive. In fact, many activist groups use the two in tandem for maximum effect.

Private politics was born at the crossroads of the radical activism of the 1960s and the failures of the organized labour institutions in the 1950s. Disillusioned labour leaders recognized that their traditional tactics were no longer working. So, taking a page from the newly minted social activists of the time, they developed a new strategic framework. Enlisting those social groups also gave labour's cause a much broader base, legitimizing what was otherwise seen as a self-serving cause. Labour's success using this mechanism solidified private politics as a tool for all activist groups.

Further adding to the support of private politics has been a shift in consumers' values. More than ever, they consider the social effects of their purchases, and research shows that customers are starting to pay more attention to a product's

"post-materialist" details (such as sustainability or self-expression), rather than just to its monetary aspects. Thus, consumers are more apt to support activist causes, which has led to an increase in the use of private politics.

Perhaps the main factor in the rise of private politics has been the maturation of the Internet. This has vastly decreased the costs of organizing a campaign, and it has allowed activists to galvanize support online before the target even realizes there is a threat. Additionally, the Internet is an excellent research and development tool. Not only can activists use it to discover and develop issues, it is an effective educational medium. Now activists can rapidly reach all their supporters at little cost, which enables them to distribute information about upcoming campaigns, such as talking points and implementation plans. The Internet has also led to a significant increase in individual activism, since consumers now have a myriad of options for voicing their opinions online.

Furthermore, the increase in low-cost communication, combined with the globalization of the world economy, has given the developing world a seat at the table in the discussion of business regulation. This flattening of the world means that there are no longer any local issues; the sometimes exploitative practices of corporations in the developing world cannot be hidden from modern consumers.

## **The Structure and Tactics of Modern Activism**

Though activists in the modern environment come in many forms, the main archetypes are labour and non-labour. Both the goals and the means of these groups are different. Labour groups almost always have a personal vested interest in the continued success of their target; therefore, their attacks tend to be less severe, and the groups are more willing to bargain with business leaders. Non-labour groups represent a wide variety of interests, from the environment, to human rights, to social issues such as religious and personal freedoms. Attacks from these groups tend to be more severe, since they usually see groups they target as true villains. For example, if an environmental group whose goal is to stop deforestation targets a logging firm with the goal of stopping deforestation, destruction of the firm would perhaps achieve the best result for the group.

The actions of activist groups are centred on what is known as the corporate campaign. This acts as an organizational framework for all efforts aimed at satisfying activists' goals.

The first step in organizing the campaign is to identify an issue. While this may seem as simple as choosing the one most closely aligned with the activists' beliefs, many other factors come into play. For example, because the market for activist support is extremely competitive, groups must choose issues that are most likely to attract consumers to their cause. Additionally, the issue that is the true goal of an activist may be

viewed as simply a selfish interest. Therefore, groups often bundle their campaign with complementary issues to broaden the coalition supporting their cause.

An example of this is the Union of Needletrades, Industrial and Textile Employees' (UNITE) boycott of clothing retailer Gap Inc. in the United Kingdom in 2002. UNITE joined forces with social activist group Africa Forum to bring to light the human rights abuses in Gap sweatshops in the developing world. While the campaign may have been in the name of human rights, focusing on increased wages and more equitable treatment of workers in the developing world, the benefits for UNITE of a successful campaign would be more self-interested. When the rights and wages of textile workers in the developing world increase, outsourced labour becomes more expensive. This would protect domestic unionized textile jobs in the United Kingdom (Lawrence, 2002).

Once an issue has been selected, activists develop their implementation strategy. The labour movement has contributed greatly in this area, developing user guides and educational programs to train organizers and activists.

Identifying a company to target is a key piece of the campaign strategy. While the worst offender may seem the obvious target, activists may choose to attack more vulnerable firms that

are more likely to comply with a demand. Companies in very competitive segments, such as retailers, are particularly good targets. These easy wins can lead to a domino effect of success, since effective advocacy attracts additional supporters and puts industry pressure on other firms.

**Thus, consumers are more apt to support activist causes, which has led to an increase in the use of private politics.**

Activists also target highly visible firms. The news coverage that a campaign against a well-known brand attracts can put tremendous pressure on a firm. Additionally, activists prefer to target firms with low switching costs and close substitutes. If consumers do not have to make major changes in their daily habits, they are more likely to support a campaign.

Activists can also choose to put pressure on companies within a firm's value chain in an attempt to apply external coercion on a difficult target. This tactic, known as indirect targeting, can be very effective. The success of every firm depends on a variety of different stakeholders. Large industrial firms rely on banks and investors for financing, suppliers for inputs, and customers to purchase their goods, among others. By pressuring a vulnerable external stakeholder, activists can affect the firm's bottom line. This is especially effective if the indirect target has close substitutes for its relationship with the ultimate target.

The final piece of strategy that an activist group needs to consider before selecting tactics and tools is how to navigate the media. Different media agents have different roles in the campaign. For example, activists can recruit social leaders to join their fight in an attempt to legitimize their issue. Activists can also use mediating agents such as journalists to amplify their messages. Finally, groups can target stakeholders and influencers in an attempt to apply indirect pressure. The goal of all these tactics is usually to portray the activist group in a positive light and cast the target firm as the villain.

Harm and reward are the primary tools of private politics. Harm is dealt through a variety of methods. Perhaps the best known is the boycott. This can be waged either directly against the firm, or against indirect stakeholders. While the stereotypical image is that of individual consumers picketing outside a retail location, a boycott can have devastating effects when large contract customers terminate their contracts.

Attacking a firm's capital sources can be highly effective. This involves indirect campaigns against banks, as well as communication with institutional and other investors and analysts to convince them that an investment in what the activists see as the company's irresponsible behaviour is not financially sound. Additionally, labour groups can leverage their often large pension holdings to influence targets. They do this by withdrawing money from the financial stakeholders, exercising voting



rights, and forming coalitions with other institutional investors with similar goals.

Labour groups have one tool that non-labour groups often don't have – an insider position. By mobilizing union members within a firm, labour groups can implement tactics to apply intense pressure to target firms. This energy is fuelled through acts of solidarity such as organizing members to come to work dressed in pro-union shirts and buttons, etc., which sends the employers the message that they face an allied front. With this insider loyalty secured, the union is able to commit acts of co-ordinated pressure, such as systematic decreases in production and workers' organized taking of sick days. This happened in the United Auto Workers' strike against Caterpillar throughout the early 1990s. The vulnerable position that results from synchronized insider tactics can be effective against even very large companies.

### Corporate Impact

Private politics has become an increasingly effective and recognized method for influencing corporate behaviour, and corporations are taking notice. Because of the devastating effects that a well-organized campaign can have on

a firm, companies have started to analyze how to avoid targeting. While firms may decide that co-operating outright might lessen the damage of an attack, this often only attracts future attacks due to the firm's perceived weakness. Firms can also attempt to self-regulate to avoid targeting. However, this may lead to a chain reaction that

results in self-regulation at the industry level. For example, as one firm alters its policies to preemptively appease an activist group, its competitors are left as easier targets. As they adjust their policies to meet or exceed the first mover, other firms will make similar changes to avoid becoming targets, and so forth. This trend continues until all firms in an industry find their business practices affected by self-regulation.

Some attacks, however, cannot be avoided, and firms are then forced to engage with activists. When this occurs, firms have three options: ignore (by continuing operations without change), fight (by launching a counterattack), or negotiate (by settling on mutually agreeable terms).

Firms must carefully analyze the campaign against them before deciding on a response. They should first consider whether the activist is a credible threat with a history of success. Additionally, they should analyze whether the issue

has any social resonance: does the group have support? Furthermore, if the firm chooses to negotiate, should it meet all the demands, or can it simply concede to a small number? If the firm decides that it has the upper hand, it can itself use private politics tools of private politics as the activists to fight back. This often requires a co-ordinated and expansive communication campaign.

The real effect of private politics on corporations has been increased awareness of social and environmental issues at all points along the value chain. Firms now engage NGOs before expanding into the developing world, and they seek the advice of activists to maintain a positive image.

### Private Politics and Government

Private politics has profound effects on both governments and citizens, and not all are positive. While the rise of private politics has allowed citizens to take a more proactive and expedient role in modern democracy, it has also left them vulnerable to informal social and economic policy changes brought about by influential activist groups that do not represent the population as a whole.

Private politics is a double-edged sword for governments as well. While the mechanism can lift the burden of some social and environmental regulation, it can also work against existing public policy. For example, activists may try to steer the government to regulate certain industries, such as seal hunting, that

may be vital to local economies and well-being of vulnerable groups such as Aboriginal people.

Additionally, repeated attacks against companies from one country can tarnish that nation's reputation. For example, if vehement anti-corporate activism exists in Canada, the country may develop a reputation as a cumbersome place to do business. This may discourage international investment and encourage some domestic companies to relocate operations elsewhere. Losing this tax base shifts more of the burden onto individuals and may force the government to cut services.

Activists may also target a government directly, exerting both direct and indirect pressure on it just as they would on a corporation. This becomes a problem when two activist groups with opposing views campaign a government on the same issue. An example of this is when wind power advocates and migratory bird activists take opposite sides regarding wind turbine construction. The larger or more effective group may win out regardless of how representative its members are of the broader population or the alignment of its interest with the public interest.

Thus, governments must ask themselves how they can influence the rules of private politics. After all, private politics is not legitimized by elections or an established legislative process.

One approach is to engage activists directly and incentivize good behaviour. Additionally, governments can selectively leverage the fervour of

activist groups to impose public policy pressure on corporations. In the ideal scenario for government, activist groups would become an efficient mechanism of the democratic process, quickly enacting policy decisions of representative constituencies at a reduced cost to the government, obviating the need for inflexible, formal regulations and high compliance costs to the firm.

However governments choose to participate, they must engage in the private politics debate in order to maintain democratic legitimacy. While governments once held a monopoly on public policy, activists are now competing for influence on corporate and social behaviour. Thus, the main challenge governments face in this emerging field is to find ways to both contain and leverage the power of activism in order to preserve the primacy of the democratic process. 🌱

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Various kinds of regulatory reform and regulatory policy change have occurred in Canada and other member countries of the Organisation for Economic Co-operation and Development over the last four decades. These have been cast in terms such as deregulation, regulatory impact assessment (RIAs), regulatory quality, better regulation, paper burden reduction, smart regulation, incentive-based economic regulation, risk-benefit regulation, and life cycle regulation (Radaelli and De Francesco, 2007; Doern and Johnson, 2006).

However, all have essentially avoided the central problem of regulatory governance: the absence of a strategic annual or multi-year publicly debated

degree to which the analogy to the tax and spending processes holds is key to the analysis to follow.

I argue that the notion of a regulatory budget and regulatory agenda is an idea whose time has come.<sup>1</sup> A *regulatory budget* is one that sets limits on the costs of new regulation on the private sector (firms and consumers), in order to maximize the net benefits of regulation. The idea is to maximize net benefits by keeping costs under control, or by prioritizing initiatives with high benefit-cost ratios.

A *regulatory agenda* is a logically and democratically necessary complement, because a regulatory budget implies open and explicit priority setting of new rules, new risks, and risk-benefit opportunities based on the best available information regarding the magnitude of both the costs and benefits of regulation, and on politicians' judgment about values and preferred futures.

The analysis centres on two triggers for action and debate. The first and most important is the British government's recent decision to implement an annual regulatory budget (United Kingdom, Department for Business Enterprise and Regulatory Reform, 2008b; United Kingdom, HM Treasury and Department for Business Enterprise, 2008). The second and more Canadian-focused is my book for the Conference Board of Canada (Doern, 2007), which called for an annual strategic regulatory agenda for the Government of Canada. Both relate,

regulatory budget and strategic regulatory agenda analogous to the agenda setting that has for decades been a part of the tax and spending process. The

1 Thanks are owed to Claudio Radaelli and Doug Blair and two other anonymous peer reviewers for constructive and helpful comments on an early draft of this article.

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# An Idea Whose Time has come: A Regulatory Budget and Strategic Regulatory Agenda

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albeit in different ways, to strategic agendas that would discipline and be centred on proposed *new* regulations rather than the stock of existing regulations. “New regulations” are defined to include both new Parliamentary statutes and delegated legislation (i.e. “regulations” in the narrow sense of statutory instruments having the force of law that are adopted – typically by government orders-in-council – under the authority of a statute).

The two developments are complementary in an analytical sense in that the British government’s announced commitment is to a regulatory budget (a cap on private sector costs of new regulations over a defined period), but with the initiative led by the Department of Business Enterprise and Regulatory Reform (BERR). It focuses on regulatory cost and net benefit, and the discussion is thus far not informed by much analysis about how the cross-governmental political dynamics of strategic regulatory agenda-setting might work. On the other hand, the analysis on Canada focuses on the larger cross-governmental dynamics of regulatory agenda-setting and the democratic and governance case for such strategic agendas, but it does not address the specifics of a regulatory budget.

Any discussion of a regulatory budget must also refer to ideas advocated in the United States 30 years ago and more recently, but never adopted by

the US government (Tozzi, 1979; White, 1981; Thompson, 1997; Crews, 1998; Meyers, 1998; Kiewiet, 2006). As I discuss later, the United States has not adopted such a system, initially because of concerns about inadequate analytical data and information, but also due to normal separation-of-powers issues regarding political power and the determination of agendas in the US constitutional system.

The structure of my analysis is accordingly quite straightforward. The first section highlights recent developments in the United Kingdom (United Kingdom, Department for Business Enterprise and Regulatory Reform, 2008b; United Kingdom, HM Treasury and Department for Business Enterprise and Regulatory Reform, 2008). The second section summarizes key features of the analysis of Canada and the need for a strategic regulatory agenda.

### **The British Commitment to a Regulatory Budget**

In a recent report on business enterprise in the United Kingdom, the British Government committed itself “to consult on the introduction of a new system of regulatory budgets for Departments that would set out the cost of new regulation that can be introduced within a given period,” as suggested by the Better Regulation Task Force (BRTF) (ibid: 73). The March 2008 UK Budget also reinforced this commitment by stressing that its

regulatory agenda was outlined in the above enterprise strategy report (United Kingdom, HM Treasury, 2008: 44).

The 2005 BRTF report had recommended that the Government “should develop a methodology for assessing the total cost of regulation, and consider introducing full regulatory budgets” (ibid: 68) acknowledging “that such a move would be difficult and take time, as well as setting an international precedent” (ibid: 69). The BRTF report had more precisely concluded that “it should be possible to have the fundamental elements of such a methodology within the next two years. At this point, the government should reassess whether full regulatory budgets, taking into account the cumulative impact of regulation, should be introduced” (United Kingdom, Better Regulation Task Force, 2005: 47). As I stress below, the above focus of the discourse on regulatory “costs” is somewhat misleading in that the actual methodologies to be employed – not to mention the underlying political values and realities – will and must link these to the benefits of proposed regulations.

The regulatory budget initiative in Britain has emerged with prime ministerial backing and a decision to proceed, but the BERR will lead it. BERR published a consultation document in August 2008, and consultations are now underway (United Kingdom, Department for Business Enterprise and Regulatory Reform, 2008b). The regulatory budget system is being designed for a 2009 start-up trial run, and it will be fully operational in 2010. The choices and issues being discussed in the consultations relate to:



- the design of the system as a whole;
- the scope of regulatory instruments to be encompassed; and
- methodological choices, notably in relation to the measurement of costs and benefits.

I will comment briefly on each.

The regulatory budget system overall is being forged on the concept that the British Cabinet would set budgets by department, but with an eye out also for horizontal regulatory budget items such as climate change. The budget period is being discussed more as a three-to-five-year budget rather than an annual one, but with “flexibility to allow for contingencies and flexibility over time and between departments” (ibid: 10).

It is worth noting that British regular spending budgets already have three-year medium-term spending plans and allocation processes. Issues also arise regarding whether regulatory budgets should be set for families of regulators within departments, and also whether particular “big-ticket items” such as climate change should have earmarked budgets or be left out of a given budget period because of their inherent complexity or uncertainty. For these reasons of perceived impracticality or degree of difficulty, the British government has indicated that climate change for these reasons of perceived impracticality or degree of difficulty will be left out of the initial regulatory budget.

This, in turn, raises questions about exactly how flexibility will be built into the system across and within years, among departments, and with regard

to emergencies or exceptional circumstances (as exist in regular spending budgets). Decisions about which agency will scrutinize the regulatory budgets also need to be made. Virtually all these system design issues raise the need to anticipate and manage the kinds of departmental and regulatory body gaming, not to mention gaming by private sector regulated interests, that will accompany the adoption of such a system. “Gaming” refers here to tactical strategies that departments and their stakeholders use to minimize and circumvent some of the disciplines of a formal agenda and budget. These can include suggesting that a proposed new rule be called a “guideline,” or pressing for status as an exception from the normal rules that would accompany such a budget and agenda.

The above issues are also related to other choices about the scope of the system. The consultation document indicates that the system of regulatory budgets would include “all the costs associated with regulation that have an impact on a business or third sector organization” (ibid: 11). Rules governing public service provision (internal regulation) will not be included. Boundary and scope choices also centre on the coverage – or not – of regulations originating in the European Union (these will be included), the

**Virtually all these system design issues raise the need to anticipate and manage the kinds of departmental and regulatory body gaming, not to mention gaming by private sector regulated interests, that will accompany the adoption of such a system.**

geographic scope on so-called reserved matters involving devolved governments in Scotland and Wales (the approximate UK equivalent to considering whether to apply a national regulatory budget to both federal and provincial/territorial governments), and

whether economic or independent regulators will be included (the consultation document suggests that they should not be included). Such UK regulators would include the Bank of England. A Canadian example of an independent regulator is the National Energy Board. The non-inclusion of independent regulators in the UK proposals may not, in fact, carry when the final system is announced, because this is a politically con-

tentious issue of scope.

Crucially, there is contention regarding what “regulation” includes (e.g. statutes, regulations in the narrow sense, and guidelines and codes/standards). The British choice to date includes the first two of these, but not guidelines and codes/standards (ibid: 26). These choices inevitably set up room for the gaming strategies referred to above.

With respect to methodologies regarding regulatory budgets, the issues centre on approaches for assessing costs and benefits and, of course, on the availability and transparency of

cost-benefit data and estimates. The BRTF had recommended that cumulative regulatory costs be the basis for the system. Choices about relevant costs include full economic costs, gross costs or net of benefits, and other more specific technical issues. The consultation document proposes that “regulatory budgets take account of direct and indirect costs as well as benefits, including possible unintended effects, and across all sectors of the economy” (ibid: 37). It proposes that regulatory budgets be “set on gross cost estimates of regulation, i.e., that estimated benefits will not be netted off from gross estimates for the purpose of setting budgets” (ibid: 38). However, all such information in the decision process would also be accompanied by linked data and information on benefits.

Costs have to be based on cost estimates or cost-benefit estimates. Experience shows that both costs and benefits are hard to measure accurately and can be subject to exaggerated claims. Though information from RIAs will provide an underpinning here, UK authorities are aware of the need for improvement in this domain – hence the call for further discussion and development of methodologies. On the other hand, if one waits for methodological perfection, a government-wide regulatory budget will never be achieved, and the impetus for the development and refinement of such methodologies will remain limited.

The idea of a regulatory budget was first advanced in the United States in the late 1970s by the US Office of Management and Budget (Tozzi, 1979). Under a regulatory budget

regime, a regulatory body would be given a ceiling on new regulation compliance costs. The idea was obviously regulation-focused, but it was also always tied to the eventual achievement of a full and complete fiscal budget.

Current fiscal budgets include taxing and spending, but not the “spending” that governments mandate and require from private businesses and consumers through regulation. This mandated spending remained “off budget.” Therefore, governments have a built-in incentive to choose regulation as a policy instrument, because the costs of doing so are “hidden” and imposed on private firms and consumers. The government’s own costs to carry out the state’s regulatory responsibilities are, of course, captured in regular budgets, but the private sector costs are not.

Thus, the regulatory budget could potentially provide four benefits:

- more explicit attention to regulatory costs;
- more cost-effective allocation, because priorities would have to be set;
- more decentralized decision making; and
- increased legislative accountability for regulatory costs (Jacobs, 1999: 155).

The notion of “allocation” refers to the allocation of values and benefits that are central to politics and governing. The claimed benefit of decentralized decision making is possible in some senses, because departments closest to the regulatory realms would help set and

recommend regulatory priorities. However, overall, a real regulatory budget involves centralized agenda-setting and decision making as well.

The United States never adopted a cross-government regulatory budget, partly because of the lack of information on regulatory costs and a consistent and comprehensive set of cost estimates, and partly because of stakeholder concerns that it might favour more or less regulation overall. This was also because of a lack of political will, which may be even harder to secure in the US political system, which separates powers between the executive and Congress (Meyers, 1998; Crews, 1998; Thompson, 1997).

However, some elements of more specific regulatory budgets did arise in the early 1990s regarding the US Clean Air Act and the US Safe Drinking Water Act amendments, where private sector cost ceilings were used as benchmarks in the negotiations between the president and Congress (James, 1998) regarding these laws and rules. Because of these experiments and because of the overall logic of the case for regulatory budgets and agenda-setting, advocacy efforts have been made periodically in the United States, as have discussions and debate in academic settings (White, 1981; Thompson, 1997; Kiewiet, 2006).

The UK Better Regulation Task Force also took note of the Dutch model for reducing administrative burdens. It is, in essence, a “regulatory budget for administrative costs” to the state (United Kingdom, Better Regulation Task Force, 2005: 46). The BRTF also



noted that the United Kingdom should adopt this approach, since it would provide useful experience for operating regulatory budgets. Canadian research has also identified gaps in the systematic awareness of overall basic regulatory administrative costs to the government and in other areas (Ndayisenga and Blair, 2005). Moreover, some estimates exist regarding ratios between such direct costs to the government and the much larger mandated private sector costs, ratios that range from 15 to 20 times the costs to government (James, 1998).

## A Strategic Regulatory Agenda in the Government of Canada

To analyze the federal government's pattern of regulatory policy and governance, I looked at the following:

- the current reality of complex regulatory regimes (multiple interacting regulatory bodies and rules) rather than single regulators functioning alone;
- rapid changes in technology and advances in knowledge;
- the need to better manage and rank risks and risk-benefit opportunities; and
- the changing nature of science-based regulation in government (Doern, 2007).

The interaction among these latter changes has made it extremely difficult for governments to manage their regulatory responsibilities. In light of these overlapping pressures and changes,

I propose improvements to the current federal approach to regulation. I then outline the need for a strategic annual regulatory agenda regarding *new* regulations.

The heart of the “potential improvements” question is that far too much of the current federal approach to regulation is premised on “one regulation at a time.” This approach essentially drives the official federal “regulatory policy.” Such an approach does not properly evaluate new regulations in relation to current ones across federal departments and agencies and in other levels of government. It deals inadequately with the interacting features of the regulatory environment, including a government-wide view of risk profiles and priorities. Thus, it does not meet the requirements for regulation in the innovation age.

Federal regulatory policy has evolved since 1986, when regulators were required to consult affected parties and the public, conduct RIAs, and pre-publish the regulatory proposal. Later additions to the policy included decision-making criteria, such as whether proposals would offer net benefits to Canadian society, minimize regulatory burden, foster intergovernmental co-ordination and co-operation, meet regulatory process management standards, and link to Cabinet directives. Intergovernmental and interdepartmental co-ordination is mentioned in the policy, and hence some complex regulatory regime issues are acknowledged, but these not backed up by adequate regular cross-governmental review and institutional support.

Even the decision contained in the 2007 federal Cabinet Directive on Streamlining Regulation to add a life cycle approach to this policy, while highly desirable, still largely reflects a “one new regulation at a time” approach. The life cycle approach will extend the policy past the regulation proposal and approval stages to include subsequent enforcement, compliance, and evaluation stages.

Can one imagine the federal government managing its tax and spending system in the way that it does its regulatory system? Would a government simply have an overall tax or spending policy that says, each time a new decision on tax or spending is contemplated: “Be sure to conduct a tax or spending impact assessment, consider alternatives to spending and taxation (such as regulation), use a life-cycle approach, consult with Canadians, etc.”?

This is unthinkable, because governments know that they must have an annual or multi-year agenda for both these sides of the fiscal coin. Governments also assemble the required data to inform their priority setting for tax and spending. This kind of agenda setting is, of course, not perfect, but it is far more developed and is seen to be a crucial macro responsibility for democratic government – all the more so in a globalized, interdependent international setting.

The federal government's current regulatory system has no obvious or transparent way to consider, on a similar overall basis, which areas of regulation

are most important so that it can deal with them in a considered cross-governmental manner and then implement the new regulations, including the required science and technology underpinnings and financial and staffing resources.

The federal government does not routinely present minimalist systematic information to Parliament or Canadians on the annual rate of growth (or contraction) of even the number of new regulations or of administrative costs to the government and taxpayer. There is, to be sure, some uncertainty regarding what kinds of further data are required, hence the need for a Regulatory and Risk Review Commission (ibid: Chapter 6).

However, regulatory agenda setting does not need to wait for perfect regulatory data. Public spending and tax agenda setting began and continues to today without perfect data, but subsequent agenda-setting needs trigger improvements in data acquisition and analysis and in theories and ways of interpreting and debating about it.

The main point is that governments have been lax in making this kind of effort regarding regulation. It is needed, not only for normal democratic and accountability reasons, but also for the kind of annual agenda setting I suggest below. Regulation comprises at least a third of what governments do, in the sense that regulation, taxation, and

spending are three of the core instruments of policy action. However, considered and more transparent agendas where priorities are debated and set do not openly inform or anchor policy action.

**The heart of the “potential improvements” question is that far too much of the current federal approach to regulation is premised on “one regulation at a time”.**

The difficulty with the current approach is that more and more regulation is complex. When proposing new rules and implementing current ones, multiple sets of regulators affect each other, as well as any number of firms, consumers, and citizens. In short, multiple cycles and multiple life cycles of rule making and enforcement are increasingly the norm. For example, the full regulatory processes for new drugs involves federal government regulation of intellectual property (approval of patent applications), approval of clinical trials, drug safety and efficacy review and final approval, and eventual ultimate approval for funding under provincial medicare formulary systems.

It must be stressed that an annual regulatory agenda would not solve all co-ordination problems any more than tax and spending co-ordination problems are fully solved by the annual tax and spending agenda and related budgetary processes. Some of these kinds of co-ordination problems undoubtedly require action at other middle and micro levels of agency action or actions among agencies and stakeholders. But

an agenda would be more strategic in addressing regulatory priorities in an integrated way to better manage the complexity of regulation and to ensure that new regulations respond to economic and technological changes.

The regulatory budget and its necessary accompanying agenda would invoke a discipline that would achieve regulatory benefits at the lowest possible cost. An annual agenda would also help manage the challenges between growing consumer demand for faster access to new products and the desire for democratic regulatory processes. Finally, this agenda would help ensure that science-based and related risk analysis capacity is properly allocated to aid regulatory decisions, enforcement, and compliance. A regulatory budget and agenda would focus limited regulatory resources and capacity in the areas of highest risk and risk-benefit.

In part, this call for a more explicit regulatory agenda is also an appeal for greater basic rationality in regulatory governance to complement the agenda setting already being done for taxation and spending. Agenda setting for taxation and spending takes place partly via the annual budget process, and partly via the Speech from the Throne. That agenda process occurs every 18 months or so, at the discretion of the prime minister. A Speech from the Throne can certainly include regulatory priorities (and a budget can certainly announce regulatory initiatives), but they are not at all designed to capture overall regulatory priorities per se.



There is, of course, an inherent democratic argument for more formal strategic agenda setting that can be subject to scrutiny and criticism. A regulatory budget and agenda could complement the federal government's Advantage Canada economic strategy (Canada, Department of Finance, 2006) and its science and technology strategy (Canada, Industry Canada, 2007). It would also address some of the regulatory weaknesses and needs identified by the House of Commons Standing Committee on Finance (2006). It is also crucial for many social and foreign policy areas where regulation is often the instrument of choice.

The above analysis raises two linked questions about the agenda idea. First, does the federal government already have some kind of internal informal annual regulatory agenda that is simply not apparent to the rest of us? And second, what would a more complete and democratic annual regulatory agenda look like, and how might it work?

The first question deserves an answer, because if such a system exists and is working well, why should the regulatory agenda argument be carried any further? Some elements of an internal informal annual regulatory agenda that provide partial answers to this question already in place:

- the agenda setting that goes on within departments that have major science-based regulatory tasks, as well as within some other regulatory bodies;

- departmental reports on plans and priorities, which are submitted during the annual expenditure process;
- the Speech from the Throne and related priorities regarding legislative bills that go before the House of Commons; and
- the recently launched experimental "triage" process, whereby departments are invited to differentiate high, medium, and low priorities for regulations, which then receive appropriate levels of regulatory focus and resource support (Doern, 2007: chapters 5 and 6).

These examples of partial, informal, and unclear regulatory agenda-setting processes and dynamics can certainly be built upon. However, they do not constitute a full-blown agenda-setting process or arena for strategic regulation. It is at best a hit-and-miss process, from the perspective of an outsider looking at how and why governments regulate in some areas but not in others on an annual or multi-year basis. Outsiders, in this context, include members of Parliament.

It is, without doubt, a far less explicit or transparent process than either the tax and expenditure agendas or the overall Speech from the Throne process. Neither of these processes is perfect, but each is informed by the view that strategic agenda setting is important and should be reasonably transparent.

The next question is this: what should an annual regulatory agenda look like? A more complete, transparent, and

strategic regulatory agenda process that debates, sets, and announces federal regulatory priorities would require several features (some similar to features of the tax and spending agendas, and others different, because regulation itself is different):

- a process whereby all proposed new regulations from across federal departments and agencies would be aggregated annually and priorities determined at the Cabinet level;
- a determination of what would be included as proposed new "regulations" (both new laws and new delegated law – the regulations – would need to be included);
- a provision and processes for handling contingencies and emergencies requiring new regulations (as exists for the tax and spending processes);
- an appreciation of the many possible criteria that might be used to distinguish high-priority from low-priority proposed new regulations;
- an annual ministerial "regulatory agenda statement" and debate in the House of Commons; and
- a consideration of whether such an agenda process should be a separate, stand-alone one, or one that is appended to the existing tax or spending agenda process to avoid duplication in matters such as stakeholder consultation or for other reasons (I recommend a stand-alone separate process, at least initially).

The arguments as to why a given new regulatory proposal should be ranked high and should proceed to adoption will, without doubt, reflect the same diversity of rationales, values, and ideas as arguments for new tax and spending proposals. The Minister of Finance and the Prime Minister control tax priority setting, whereas new spending, though tightly controlled by a few ministers, does involve a formal and informal bidding process by all ministers.

Proposals for new regulations would come from many ministers as well. The rationales and criteria would include risk assessments and regulatory costs of diverse kinds, and levels of real and perceived severity. There would also, in any given year, be criteria related to electoral promises, international obligations, and regional pressures, as well as numerous health, safety, environmental, and sustainable development values.

In a complex Cabinet of more than 30 ministers representing a federation, the criteria for pride of place on the regulatory agenda will be as diverse as they are for spending and taxation. Agenda setting is inevitably a mixture of political and economic rationality, but it also involves tactical and opportunistic behaviour by political and economic players inside and outside of government to take advantage of windows of opportunity.

## Conclusions

With the recent UK government commitment, the idea of a regulatory budget and a strategic regulatory agenda has finally come closer to implementation. However, the intersection of the UK decision in 2008 to commit to a regulatory budget and my 2007 analysis, which called for a strategic regulatory agenda in the government of Canada, suggests complementary analytical needs and debates.

The UK decision has focused on a regulatory budget for new regulations and their private sector costs, but it is linked to regulatory benefits as well. It has emerged from a business enterprise development perspective in the United Kingdom's lead industry department, but with prime ministerial backing. Though it recognizes the challenge of assembling regulatory cost and benefit estimates and of overall system design, it is committed to proceed. The British development so far suggests that the regulatory budget will not be on an annual basis, but rather on a three-to five-year basis, to complement its existing three-year expenditure budget plan cycle.

However, thus far British reports and announcements have been vague about how a strategic agenda will be set across the government and within departments, with their individual families

of regulatory bodies. It is also unclear what criteria will inform such an agenda, in addition to private sector gross costs and linked benefits. The more the debate about actual agenda setting opens up in the coming months beyond a business-led political constituency, the broader the criteria are likely to become.

My call for a strategic regulatory agenda for Canada contains no details about a regulatory budget for the government of Canada. I do recognize, however, that some form of cost-benefit and risk-benefit disciplining structure has to be a key part of such a strategic agenda.

The analysis suggests an annual strategic regulatory agenda to complement the annual regular tax and spending agenda, but to be debated publicly as a separate part of the Parliamentary calendar. The analysis is quite explicit about the larger cross-governmental and democratic basis of the case for a strategic regulatory agenda and the diverse criteria that will inevitably inform it and shape it. But any development of a regulatory budget and agenda for the federal government would have to include further analysis and debate of the Canadian equivalents of the issues of scope, coverage, and methodologies covered in the recent British consultation document (Regulatory Budgets: A Consultation Document).

As with the UK developments and also the earlier US debates about a possible regulatory budget, the argument in the Canadian context is that governmental approaches to regulation are grossly inadequate when compared with the



ways in which governments treat spending and taxation. Regulation comprises at least a third of what governments do, but regulatory governance and policy making regarding new regulations still fly essentially without a pilot or radar. 🌱

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On March 11, 2009, the PRI and Treasury Board Canada Secretariat hosted the Integrated Assessment Workshop for Regulatory Impact Analysis for managers and analysts within the federal government. The purpose of the workshop was to help build the capacity for departmental and agency analysts involved in the regulatory process. Attendance was strong, with over 35 participants from 12 government departments and agencies.

The workshop used a hypothetical exercise that considered a proposed policy to use a "green" approach to meet regulatory requirements for reducing sewer overflow events. Participants were separated into groups to

examine one aspect of the analytical puzzle – risks, benefits, costs, or distributional issues, and policy, and outreach. They later returned to plenary to present their findings to the group.

The workshop successfully brought together a range of federal agency professionals engaged in environmental, health, and safety regulatory analysis and decision making. The event provided participants with an opportunity for greater understanding of the integration of science, economics, and policy, and the analyses that facilitate the process.

**Richard B. Belzer, Ph.D.**

President

Regulatory Checkbook

## Introduction

The Government of Canada recently embarked on a program to streamline its regulatory procedures. This new program, set forth in the *Cabinet Directive on Streamlining Regulation* (CDSR), is both a new way of writing regulations and a new way to think about the entire regulatory process. The centerpiece of the CDSR is regulatory impact analysis. The general notion is that the government can and should use well-respected and commonly used analytic tools, such as benefit-cost analysis, to examine in advance the likely consequences of an array of alternatives, and use this analysis to inform both the government and Canadians before making important decisions. The CDSR includes a system

The benefits of the CDSR cannot be achieved without an effective challenge function, but designing and implementing such a function is not easy. Challenge functions are needed because regulatory agencies and stakeholders often disagree about certain fundamental issues, such as which instruments should be selected and what regulation ought to achieve. These disagreements spill over into regulatory analysis. When disagreements arise, the challenge function should be perceived as a neutral process for resolving technical issues and clarifying the remaining policy differences. All stakeholders will not always perceive outcomes as equitable, but an effective challenge function can enable the fairness of the regulatory process to be above bias or favouritism, thus making unhappy individual regulatory outcomes less disconcerting.

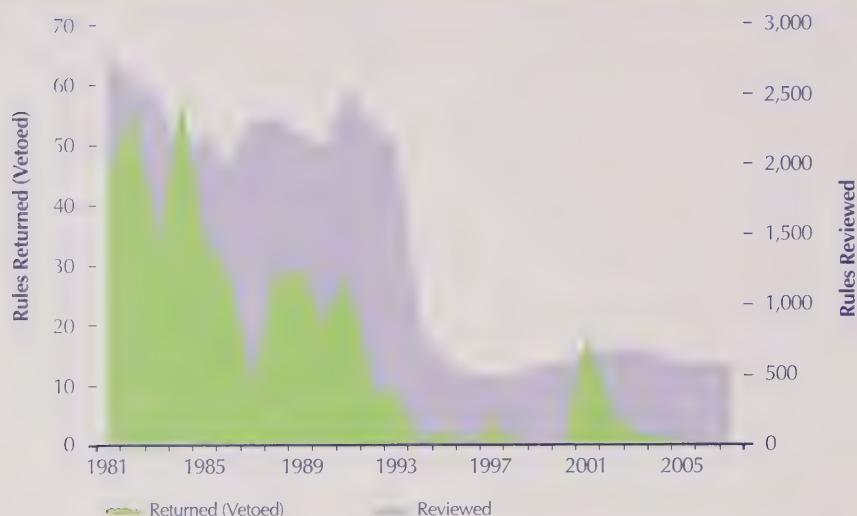
## Principles for an Effective Regulatory Impact Analysis Challenge Function

to ensure that regulatory analysis meets high standards for transparency, quality, analytic rigour, and utility for decision making. The design of that system of regularized oversight – called a “challenge function” in Canada and some other OCED countries – has yet to be determined. This paper discusses options that have been tried or proposed elsewhere and helps guide a credible analysis of alternatives.

Challenge functions are inherently regulatory in nature, so they can be unpleasant in practice. Whereas government agencies normally regulate others, they are themselves the regulated parties of a challenge function. Many of the lessons about regulatory design, well described in the CDSR but targeted at the private sector, also apply to the relationship between challenge functions and regulatory agencies. When regulating the private sector, agencies often try to persuade them to embrace agency norms. Similarly, the challenge function agency will seek to persuade regulatory agencies to embrace the ethic of neutral regulatory analysis as a prerequisite to regulatory decision making.



**Figure 1**  
Regulations Reviewed and Returned (Vetoed) by OIRA, 1981-2007



Source: <<http://www.reginfo.gov/public/do/eoHistoricReport>>

For this reason, designing an effective challenge function can be a complex task. The many factors to consider often entail trade-offs such that advancing one objective requires sacrificing part of another. An even more important lesson can be gleaned from the experience of others: it is much easier to design a challenge function to fail than it is to design one to succeed.

This brief paper identifies several important principles to consider when designing a challenge function. To set the stage, US experience is briefly summarized, but from perhaps an unusually critical perspective. Subsequent sections set forth competing models for challenge function design and explain how they can be expected to perform.

## The Challenge Function in the United States

In the United States, the challenge function began with the *Federal Reports Act* of 1942 which, for the first time, required the government to minimize the public burden of its information collection activities. Paperwork burdens grew anyway, resulting in the bipartisan approval of the *Paperwork Reduction Act* of 1980. The new Office of Information and Regulatory Affairs (OIRA) was established within the US Office of Management and Budget, and it was directed to manage and control these burdens.

Meanwhile, the White House Council on Wage and Price Stability (COWPS) had been established by Congress in 1974 and given the job of restoring US productivity and controlling inflation. The Council's functions evolved over

time, and during the Carter administration they were extended to the pre-promulgation review of a small number of major regulatory actions. The Council filed public comments concerning benefits, costs, and other impacts, but had no other challenge function authorities.

In 1981, President Reagan transferred this function to the new OIRA and established therein an explicit challenge function with veto authority. This transformed US regulatory practice almost overnight. The OIRA was suddenly responsible for reviewing several thousand individual regulations, as shown in the upper line on the accompanying chart (right-hand scale). At one time, the OIRA boasted more than 80 employees. Early on, the new office also wielded its veto with enough regularity to be taken seriously, as shown in the lower line on the chart (left-hand scale).

If vetoing draft regulations is construed as a measure of success, then success was short lived. Vetoes declined precipitously during Reagan's second term, stabilized during the term of President George H.W. Bush, and vanished during the term of President Clinton. Clinton significantly curtailed the scope of the challenge authority by removing about 90 percent of its workload, but he largely retained Reagan's evaluative criteria and regulatory principles. The data also show that President George W. Bush did not deviate appreciably from Clinton administration principles or practice. The Office of Management and Budget vetoed a handful of draft regulations in 2001

and 2002, arguably to establish its authority, but has rarely exercised this authority since then. On average, about one percent of all regulatory actions the OIRA reviewed were vetoed, and an unknown (but almost certainly very small) percentage of those were vetoed because of defects in regulatory analysis. In any case, these data do not support the conventional wisdom that the US challenge function has been nearly as effective as advertised by its proponents. Even if it was effective in the early 1980s, it is difficult to argue persuasively that it remains so today.

### Competing Models for Regulatory Analysis Challenge Programs

For many years, the United States was the only OECD nation with a regulatory challenge function, so the US model became the most promoted model by default. Nations with parliamentary governments tended to be uncomfortable with it in part because of its highly adversarial nature. Much of what makes the US model adversarial, however, is not so much inherent to the challenge function but a reflection of the fact that the political functions of the US government are divided between constitutionally co-equal but competitive legislative and executive branches.

An array of challenge function models, besides the centralized review akin to the US model, have been either attempted or proposed, with varying degrees of success. These other models are described in the following section, which concludes with a challenge

function model – the competitive supply of regulatory analyses – that has not yet been attempted anywhere.

### Public Notice and Comment

Predating the era of explicit regulatory analysis, the first challenge function model was the procedural device of requiring public notice of proposed regulatory actions and requesting public comment. Every OECD nation has some system for public notice and comment. In the

*Canada Gazette* one can often find Regulatory Impact Analysis Statements (RIAS), and these documents convey a wealth of useful information of public interest. However, notice and comment procedures lack both a quality control requirement with respect to regulatory analyses or any independent way to require that analyses be qualitatively well-considered or quantitatively objective, meaning free of bias resulting from the authors' policy preferences (what we *want* the outcomes to be) or wishful thinking (what we *hope* they will be).

Because public comments are generally advisory, the ranks of those willing to expend the resources to provide them are necessarily limited. Effort is a function of the degree to which it is perceived that the agency might be influenced to change its mind or could be compelled to do so by a court. The public comment process is at its most vibrant and effective when the legislation authorizing an agency to regulate also has strict rules requiring it to

justify its decisions based on competently performed regulatory analysis. Conversely, public comment has little impact as a challenge function when an agency has unfettered decision-making discretion.

### Persuasion and Co-option

One can always find examples in which an agency's interests, as it perceives them to be, are served by better regulatory analysis. In these instances, absent or sub-

standard regulatory analysis results from insufficient technical expertise or a resistant bureaucratic culture. These problems can be overcome by persistent, often painstaking, efforts at capacity building, education and training, and organizational reform. A regulatory agency that benefits from good regulatory analysis will learn from experience and, slowly but surely, become its advocate.

Persuasion and co-option fail, however, when better regulatory analysis undermines an agency's objectives or its claims to authority and primacy. For example, an agency whose statutory mission involves regulating in an area where markets perform relatively well will learn that benefit-cost analysis reveals its regulatory proposals to be inefficient, and thus undesirable from a normative economic perspective. A timely example is the regulation of superficial characteristics of fruits and vegetables, which the European Union recently rescinded (but only in part; it

**It is much easier to design a challenge function to fail than it is to design one to succeed.**



is estimated that three fourths of all European fruits and vegetables will still be covered by the handful of remaining restrictions). Regulation simply cannot yield net social benefits in the absence of market failure, and there is no evidence that markets are unable to price fruits and vegetables efficiently to account for diversity in shape, size, and similar characteristics. Agencies directed by law to regulate where no market failure exists will not voluntarily submit to the disciplines posed by a challenge function.

### Peer Review

Peer review is routinely used in scholarly settings and has become popular in government. Peer review can, but usually does not, perform the challenge function well. Agencies use it less to improve quality than to ratify their work. Governmental peer review is therefore subject to severe conflicts of interest. Agencies using peer review may choose the reviewers, write the reviewers' instructions (the "charge"), decide when and how the reviewers meet, and even control their discussions. Agencies have powerful incentives to choose reviewers who are friendly, desirous of establishing or maintaining cordial (or financially profitable) relations, and disinclined to be troublesome. Instructions to reviewers can be crafted to avoid asking the most pertinent questions or to constrain panels' reviews to a carefully restricted domain. When this happens, governmental peer review works as a challenge function only when experts disregard their instructions and refuse to ratify. This happens rarely, and only

among peer reviewers with extraordinary self-confidence and personal resolve.

In scholarly settings, peer review is used mostly to allocate grants or ration pages in a refereed journal. The task is to select the "best" from what is available, not to ratify anything. Scholarly peer reviewers have ratification authority only in one context: the decision to approve of a doctoral dissertation leading to the award of a Ph.D.

Peer review also suffers from potentially more serious defects. First, when even (and perhaps especially) the best and brightest experts are assembled, there is no way to limit their review to the matters in which they are expert. Scientists are susceptible to the conceit that their expertise is easily transferrable elsewhere. Second, scientists can leverage their position as technical reviewers to advocate for specific public policies. This can be managed in various ways, such as by explicitly directing reviewers to stay out of policy debates and technical areas where they lack expertise, with the threat that their work will be summarily dismissed if they don't. Responsibility for selecting panels and writing their instructions can be given to a genuinely independent entity. Panels can consist of very sceptical individuals willing and motivated to question nearly everything.

Still, some of these problems cannot be remedied no matter how much care and effort is devoted to the task. Scientists will often be tempted to believe that their own research is the most important in any field of inquiry and be critical of the research of profes-

sional rivals. They will be tempted as well by the prestige that comes from service on committees of highly distinguished people, and the power that comes from being authoritative, even if for just a short while.

### Separate Agencies' Policy and Analytic Functions

Typically, personnel employed or contractually funded by the regulatory agency also conduct its regulatory analysis. They are subordinate to agency program officials and subject to pressure to produce analyses that support programmatic objectives. Even when there is no explicit pressure, analysts in a regulatory agency tend to share its perspectives, goals, objectives, and culture.

For this reason, obtaining independent regulatory analysis from within the agency requires at least that analysts be organizationally separated from program officials. Their promotion and advancement must be insulated and they must report to senior officials without dilution or censorship. Where these conditions do not apply, an aggressive challenge function will be necessary to get minimum quality analysis from an agency.

### Regulatory Analysis Blueprints

A process reform that has been used occasionally involves the advance preparation of regulatory analysis blueprints. These should not be substantive descriptions of what an agency intends to do by way of regulation, but rather plans outlining how it will go about performing regulatory analysis in advance of making decisions. Like

public comment processes in general, the effectiveness of a blueprints procedure depends on whether blueprints are, and are perceived to be, genuine efforts to inform the analytic process.

Blueprints need to state clearly what data and analytic methods will be used or, if one purpose is to generate new data and methods, the precise criteria that will be used to choose among competing data and methods. The challenge function agency can monitor, and if necessary, compel compliance. Blueprints also enable agencies with different perspectives to participate more effectively, for they can perform their own shadow analyses. Similarly, by establishing a bona fide public participation blueprints process, the resources of the private and non-governmental sectors can be activated to inform decision makers and improve the quality of regulatory analysis.

A bona fide blueprints process may produce competing regulatory analyses, only one of which is authored by the regulatory agency. This creates the need for a transparent process for selecting the “best” analysis based on clearly defined ranking criteria and a process for resolving disputes. The only stable ranking criterion is objectivity, by which it is meant the absence of embedded or implicit policy preferences. Other criteria can create incentives for undesirable strategic behaviour.

**Designing a challenge function requires balancing a set of competing objectives; trade-offs among objectives are inevitable and no single approach will dominate on all margins of interest.**

A regulatory agency cannot be counted on to select the most objective (i.e., the most policy-neutral) regulatory analysis. It has an inherent conflict of interest.

For that reason, a blueprint process probably should vest the authority to choose the best analysis in the challenge function agency. If there is a concern that non-transparent logrolling or deal making could go on behind closed doors, this can be prevented by using a procedure called final-offer arbitration in which the choice of the

“best” analysis is restricted to the set of analyses presented and the decision is carefully documented for the ultimate arbiter, the minister.

### **Competitive Supply of Regulatory Analyses**

Regulatory agencies tend to control the production of regulatory analyses. This creates two problems. First, as noted above, analyses produced by regulatory agencies are not independent. The second problem is one characteristic of monopolies. Economic theory teaches that they produce too little output at too high a price, and the output they do produce is often substandard.

The remedy for the ills of monopoly is competition. A challenge function can be devised so many analyses are prepared by diverse interests, with each team of analysts implicitly serving as peer reviewers of others’ work. The crux of effective, rigorous, and highly

motivated critical review provides the incentive each team needs to perform its best work. The staff of the challenge function agency then becomes a reviewer of competing portrayals of regulatory effects and decides which analysis is best.

Such an approach offers significant secondary benefits to the challenge function agency. For example, it would no longer need to devote scarce resources to training in analytic methods. Competition will motivate prospective regulatory analysts to learn their craft without subsidized assistance. This is particularly helpful given the limited evidence that devoting resources to training regulatory agency analysts results in proportionate quality improvements.

### **Criteria for Gauging the Effectiveness of a Regulatory Challenge Function**

Designing a challenge function requires balancing a set of competing objectives; trade-offs among objectives are inevitable and no single approach will dominate on all margins of interest. In this section, several criteria are set forth that can be used to compare and contrast competing challenge function designs.

#### **Clarity of Purpose**

For a challenge function to be effective over an extended period, its purposes must be both clear and stable. Analysts must know in advance what is expected of them and thus be able to predict how their work will fare under



review. The public also must have confidence that the challenge function is consistent, equitable, and transparent.

Predictability is enhanced if the challenge function agency also has a synergistic mission reinforcing analytic quality. Paperwork reduction and information quality are good examples of synergistic missions. Regulatory agencies always want more information, both to perform regulatory analysis and to craft efficient and effective regulations. Left to their own devices, however, agencies tend to seek more information than they really need (thus imposing undue burdens on the public) and may not be sufficiently motivated to assure information quality sufficient for the intended purpose. When the challenge function agency also oversees paperwork reduction, it can reduce the quantity of information demanded by the government while simultaneously improving its quality for analysis and decision making.

Conversely, predictability is significantly degraded if the agency also has missions that conflict, such as the advancement of a substantive policy agenda. Ironically, the existence of conflicting missions undermines the agency's effectiveness at achieving each one.

### **Institutional Capacity**

The scope, scale, and intensity of the challenge function determine the institutional capacity that must be built to enable it to have a chance to be effective. Obviously, the more expansive the mission, the greater will be the

resources that must be devoted to the task. These resources consist of professional staff with training, experience, and expertise that equal or exceed that of the agencies whose work they review. It also means access to outside expertise where necessary. This is especially important for complex regulatory actions that contain detailed scientific, technical, engineering, or statistical information. No challenge function agency can possibly retain on staff all of the expertise it needs to review complex proposals effectively, yet access to such expertise is essential for effectiveness.

In both the EC and US models, the size of the professional staff is insufficient. In the European Commission, it is not clear that it has ever been otherwise. In the United States, the staff has been cut by about half while its responsibilities have greatly expanded. Both schemes lack sufficient in-house expertise in vital areas, and in the United States, staff are forbidden from obtaining help from outside the government.

### **Independence**

The need for independence has already been noted in different contexts, but it is worth highlighting as a separate criterion, because there are multiple dimensions involved. As indicated earlier, if the regulatory agency prepares the only analysis, then its authors need

independence from program officials to produce objective work products. In a similar vein, analysts working for the challenge function agency require multiple types of independence — independence from competing missions, as noted above, but also independence from political interference.

For a variety of reasons, this might not be as feasible to implement as it is necessary. The challenge function can overcome this in part by using well-crafted and reproducible evaluative criteria and following transparent review procedures. Despite the limitations of peer review, the challenge function almost certainly will have to rely on this tool

for complex scientific and technical issues. Securing genuinely independent peer review is thus an additional challenge function task that cannot be left to regulatory agencies to perform.

Over time, challenge function agencies are tempted to promote their successes and minimize their failures; that is, they often do not live

by the same analytic discipline that they impose on others. A key predictor of this problem is a reporting requirement in which the challenge function agency must show that its efforts have improved the quantity or quality of regulatory analysis. Faced with such a requirement, the agency will lower its standards. A reporting requirement that

**No challenge function agency can possibly retain on staff all of the expertise it needs to review complex proposals effectively, yet access to such expertise is essential for effectiveness.**

rewards the challenge function agency for mounting successful challenges may avoid this problem.

### Timing

A challenge function can intervene at different points in the regulatory process, and choosing these points has a dramatic impact on the program's likely effectiveness. Historically, challenge function agencies have played a gatekeeper role at the end of the process. This works, however, only if the challenge function agency has the authority to veto regulatory analyses and compel them to be revised. Vesting the agency with veto authority has important practical and political consequences. For example, the agency must be willing to exercise this authority; powers that go unexercised may disappear.

The challenge function instead can be located at the beginning of the regulatory development process. If this is done, the best it can do is establish a plan for how regulatory analysis would be conducted. It cannot assure that the plan is followed, and some regulatory agencies will choose to depart from the plan for unpersuasive reasons.

A better alternative is to establish multiple points of intersection – at the beginning, the end, and places in between – each with a limited set of issues to resolve and different enforcement tools. This approach significantly improves the flexibility with which challenges can be brought. At the same

time, however, it expands the scope of the challenge function task and creates reasonable expectations that it will act.

### Transparency

Transparency has at least two dominant forms: procedural transparency (which applies to the process of evaluating regulatory analyses) and technical transparency (which concerns the data, models, and analytic and statistical methods used in regulatory analysis). Both forms of transparency involve a principle that it is easier to believe others should follow than it is to follow oneself.

Regulatory challenge programs do a good job of demanding transparency on the part of regulatory agencies, but can themselves be highly opaque. This is usually justified on the grounds that senior government officials have a need for professional candour that they cannot obtain if they must “work in a fishbowl.” This is true but largely irrelevant. A challenge function that includes a high degree of protection for confidentiality within the challenge function agency is one that suffers from actual or perceived conflicts in mission, with concomitant distrust and ineffectiveness.

Technical transparency is essential for any challenge function to be successful. Regulatory agencies – and anyone else preparing all or part of a regulatory analysis that they believe ought to be relied upon as the most objective characterization of likely regulatory effects – must be obligated to show their

work. Qualified members of the public ought to be able to use the same assumptions, data, models, and methods used by the original analysts and obtain essentially the same results.

### Review Criteria

Any successful challenge program must have criteria for determining whether a regulatory analysis is sufficient for the decision problem at hand. These criteria must be transparent (meaning readily known by all) and objectively interpretable (meaning not subject to the idiosyncrasies or eccentricities of the reviewer or anyone's policy preferences). Thus, criteria that speak to the “feasibility” of one thing or the “appropriateness” of another are poorly suited for use in a challenge function, because they are inherently subjective.

Benefit-cost criteria tend to be the most widely used in challenge functions, and there are good reasons why. First, there are well-established external rules for deciding whether a regulatory effect is a cost, a benefit, or a transfer. Second, economists have decades of practical experience objectively quantifying effects. Practitioners understand that benefit-cost analysis is supposed to be positive (i.e., descriptive) and not normative (i.e., prescriptive). Thus, the discovery of bias in a benefit-cost analysis is per se evidence of manipulation. Whether error is meaningful depends on whether it is larger than the explicit or implicit precision of the estimates or sufficient to change the net-benefit ranking of alternatives.



## Evidentiary Standards and Burden of Proof

A challenge function must be clear concerning who bears the burden of proof, what that entity must do to satisfy this burden, and what evidentiary standards will be applied. It is a reasonable starting point to require the author of an analysis to follow generally accepted benefit-cost analysis practices, fully reveal all source materials, and ensure that a qualified third party can reproduce the results. In addition, it also is reasonable to expect that an analysis will be an unbiased portrayal of the effects of a proposed regulation, and that these effects are accompanied by probabilities of their occurrence or well-founded, semi-quantitative descriptions of their likelihood. Rare events must not be described as “likely,” and descriptors such as “plausible” and “possible” must be described in quantitative terms consistent with general understanding.

Meeting these standards might be sufficient to earn a weak presumption of validity. The next task is to decide who is authorized or allowed to challenge. Typically only the challenge function agency would have this authority, in which case limited resources or the known perils of monopoly power may well handicap the challenge function. Alternatively, other governments (i.e., provincial) or other government agencies could be authorized to mount challenges, thus allowing the discipline of competition to work as an agent for the discovery of error. This would have the additional salutary effect of leveraging challenge function agency

resources. Finally, any member of the public could be allowed to mount a challenge. Such a regime would ensure that the broadest possible span of interests and competencies were taken into account.

Regardless of which model is employed, the challenge function needs a clearly stated evidentiary standard for determining whether an analysis requires correction. The choice of evidentiary standard is an implicit trade-off between Type I and Type II error. In this case, Type I error (a false positive) means interpreting a claim, inference, or conclusion as false when in fact it is true. A Type II error (a false negative) arises when a claim, inference, or conclusion is interpreted as true when in fact it is false. There is no obvious pair of weights to assign to Type I and Type II errors. As a practical matter, the more the challenge function tolerates Type II error, the less effort will be devoted to challenge.

### Authority

Many challenge functions have legal foundations and specific authorities conferred on the agency or body that perform them. Deciding what authorities should be conferred on the challenge function is complex, and there are few simple or easy answers. Diverse authorities of varying intensity and effect appear to be superior to narrowly defined authority even when that authority is extremely powerful. Under the US model, the challenge function agency has the authority to veto draft regulations – a very substantial power – but it also lacks the authority to do anything less drastic. Since 1981, it has

reviewed 39,381 draft regulations and vetoed 426. This represents 1.08 percent of the total, meaning that the Office of Management and Budget rarely exercises its single authority under the challenge function.

The challenge function agency can be given a broader set of authorities to exercise at different points in the process. For example, if the challenge function agency learns early on that a particular regulatory analysis is headed in the wrong direction, perhaps because important alternatives were excluded, or it is expected to be based on a crucial model known to be seriously flawed, it should be able to intervene early to secure a mid-course correction. Neglecting (or being unable) to correct known errors in a timely manner makes the challenge function less effective, more adversarial, or both.

A challenge function also can be effective without giving the agency decision-making authority. For example, in Australia, the Office of Best Practice Regulation (OBPR) cannot actually prevent an agency from proceeding without a required regulatory analysis or veto of a substandard product. However, the OBPR makes its reviews public and agency non-compliance public. In contrast, when a challenge function agency has veto power, it tends to exercise that power rarely, thus reducing effectiveness. If, as in the United States, the challenge function agency also has a public reporting obligation, then it cannot publicize poor regulatory agency performance without raising questions about why it did not exercise delegated veto power.

## Equitable Application

Agencies (and non-government suppliers of regulatory analysis) must be assured that the challenge function agency applies the same quality standards to all. Experience shows that it is possible to apply criteria consistently to all analyses that are reviewed with equal intensity, but it is very hard to devote the same intensity of effort to reviewing all analyses. If a challenge function agency reviews competing analyses, it must take great care to avoid inconsistencies that give even the appearance of bias.

Principles of horizontal and vertical consistency can be used to help reduce potential inconsistencies across regulatory actions. Horizontal equity means devoting the same intensity of review to regulatory analyses of similar scale and scope. Vertical equity means allocating effort that is proportional to scale and scope. Discontinuities and errors in the classification of proposed regulations undermine equitable application. The US challenge function, for example, requires regulatory analysis only for proposed actions whose impacts exceed a clearly defined but difficult to implement cost threshold. Regulatory agencies can evade this requirement by using various tactics, such as dividing a major regulation into a set of smaller

parts each of which stays below the threshold for mandatory analysis, or the simple expedient of not performing even a screening analysis to determine whether the regulation's costs exceed the threshold.

**Challenge functions are a special form of regulation, and for that reason, the choice and design of a challenge function for Canada should be informed by a rigorous analysis of all reasonable alternatives.**

Achieving equitable application will be tested immediately by the challenge function agency's institutional capacity – most obviously, its budget. Thus, the choice of challenge function model should take into account a reasonable expectation of what resources can and likely will be devoted to it. For a centralized review function such as

the US model to be effective, very significant investments in highly qualified professional staff must be made. If it is unlikely that the challenge function will be well funded, or it will slowly be defunded like in the United States, then a different model should be chosen to leverage its scarce resources. For example, a model stimulating the competitive supply of regulatory analyses, in which a smaller challenge function agency serves as a referee and arbiter of quality, is likely to be more effective if the budget is limited.

## Conclusions

There are many options for structuring and implementing a regulatory analysis challenge function, and no model has been shown to be superior on each margin of interest. A practical way for-

ward for Canada is to first conduct a realistic assessment of the constraints under which its challenge function will operate. For a challenge function to be effective, it must be designed taking these constraints into account. Once this is done, various alternatives can be examined with an eye toward maximizing the net impact of the program. Indeed, it would be sensible to compare alternatives using the same analytic tools that regulatory agencies are expected to follow when they propose new regulations.

There are reasons to believe that a challenge function incorporating competitive supply of regulatory analyses would fare well in this analysis, because it could overcome several known problems that have been shown to afflict other models. Nevertheless, it is important that no alternative be given special treatment or an a priori preference. Challenge functions are a special form of regulation, and for that reason, the choice and design of a challenge function for Canada should be informed by a rigorous analysis of all reasonable alternatives. 🌍



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## Summary

Sound risk ranking is essential to effective risk management. Without it, small risks may receive unwarranted attention, while large ones are neglected. The challenges in ranking risks include the sheer number that need to be considered, the variety of ways to define “risk,” and the differences among stakeholders, regarding which consequences matter most. Addressing these challenges requires an understanding of risks, risk analysis, and decision-making processes. A practical approach is offered for producing sound, transparent, and credible risk rankings.

waiting until circumstances bring a risk to our attention, then decide whether to treat it more or less seriously.

In our private lives, we bear the consequences, if we spend our time, money, attention, or emotional resources poorly. However, the public as a whole suffers, when policy makers worry about the wrong things. When setting their priorities, policy makers face the same challenges as do individuals, one challenge being the sheer number of risks that might be considered. A second is deciding how to define “risk.” A third is reconciling the variety of values of the different stakeholders in comparing risks.

The first section below considers these challenges from a theoretical perspective. It is followed by a short history of US Environmental Protection Agency (EPA) efforts to grapple with them. The next section describes an approach that combines risk research with practical experience in risk ranking followed by consideration of the compatibility of this approach with risk-management processes initiated by the Government of the United Kingdom and advocated by the Canadian Standards Association.

Before beginning, it is important to note that ranking risks is but one critical step in effective risk management. Ordering risks by their importance allows policy makers to focus on those that matter most. It does not, however, say what to do about them. It does not even determine which risks require action or who should take it. There may be small risks that are easily managed and large risks that merit no further attention, because there is nothing

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# The Science and Practice of Risk Ranking

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**R**anking risks to health, safety, and the environment is important because, while there are risks everywhere, we have limited resources for managing them. In an ideal world, we would regularly review our priorities, deciding which risks deserve more attention and which less. In the real world, systematic reviews of risk priorities are as rare in the public arena as they are in our private lives. That is, we usually muddle through,

to be done about them, beyond investing in research that might, one day, make action possible.

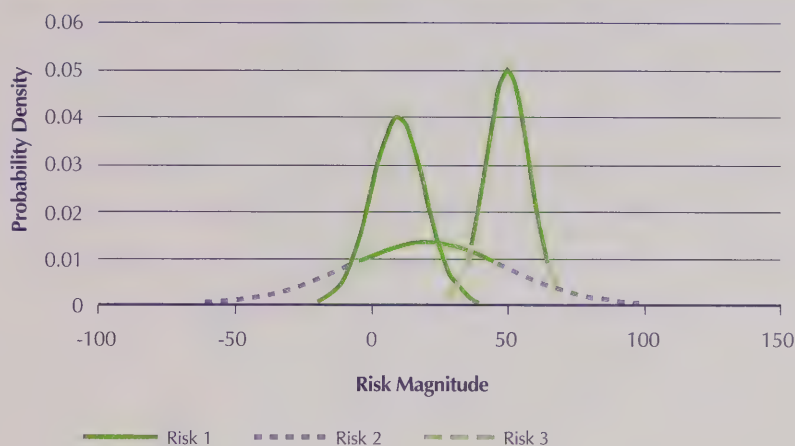
## Challenges to Risk Ranking

Risk analysis is an interdisciplinary field that develops and applies computational and empirical methods to understanding risks. It has identified three challenges to ranking risks: too many risks, too many definitions of risk, and too many values.

*Too Many Risks.* The list of risks facing an agency, firm, or family can be long and varied. For example, on a given day, a parent might need to decide how much attention to pay to a child's cough, a car's rattle, an aging parent's recent fall, a wave of neighbourhood burglaries, a worrisome skin rash, and blood sugar irregularities. At a given meeting, a school board might need to decide how much attention to pay to missing school bus seatbelts, playground fights, potential pandemics, broken stairs, and student obesity.

Normally, people pursue *sequential risk ranking*. That is, they wait until a risk draws their attention, then work hard to understand it better. Based on that improved understanding, they move that risk up or down in their ranking, hoping to afford it a more appropriate level of concern. Thus, a parent might conclude that the rattle is just annoying, then try to put it out of mind. A school board might conclude that it is living on borrowed time, for pandemic preparedness, then try to push other risks away, to give a possible pandemic the needed attention.

**Figure 1**  
Some Complexities of Risk Ranking, in a Simple Case



Source: Long and Fischhoff (2000).

Over time, sequential risk ranking might lead to better priorities – or it might lead to focusing on vivid minor risks, while neglecting quite serious ones. Parents can neglect their own major health problems, while attending to minor concerns about their kids, cars, and home. School boards can neglect potential disasters, while dealing with routine problems and single-issue interest groups.

The success of sequential ranking depends on how many risks need to be ranked, how quickly uncertainty about them can be reduced, how they attract attention, and how precise the ranking needs to be (Long and Fischhoff, 2000). Sequential ranking can work well, for example, when public health surveillance programs pick up telltale signs of emerging diseases, whose seriousness can be quickly ascertained. It can work less well when it is driven by the 24/7 news cycle.

When sequential ranking proves impossibly inefficient, *simultaneous risk ranking* is needed: looking at all risks at once. As appealing as that idea might be, in principle, the challenges to its execution are substantial. Figure 1 shows, in abstract terms, issues that arise when ranking three risks measured on a single scale. As the number of risks increases, the complexity of simultaneous ranking can grow exponentially, diluting the attention paid to part of the work. At the extreme, attempting to understand everything can lead to understanding nothing. The remainder of this article considers practical ways to overcome three key challenges to simultaneous risk ranking.

*Too Many Definitions of “Risk.”* Figure 1 has one major simplification: all risks are measured in a common unit (called the risk magnitude). Risk analysts have long realized that there is no single measure of “risk.” Even when



**Table 1**  
**Risk Comparisons**

One...legitimate purpose [for risk comparisons] is giving recipients an intuitive feeling for just how large a risk is by comparing it with another, otherwise similar, risk that recipients understand. For example, roughly one American in a million dies from lightning in an average year. "As likely as being hit by lightning" would be a relevant and useful comparison for someone who has an accurate intuitive feeling for the probability of being hit by lightning, faces roughly that "average" risk, and considers the comparison risk to be like death by lightning in all important respects. It is not hard to imagine each of these conditions failing, rendering the comparisons irrelevant or harmful:

- (a) Lightning deaths are so vivid and newsworthy that they might be overestimated relative to other, equally probable events. But "being struck by lightning" is an iconic very-low-probability risk, meaning that it might be underestimated. Where either occurs, the comparison will mislead.
- (b) Individual Americans face different risks from lightning. For example, they are, on the average, much higher for golfers than for nursing-home residents. A blanket statement would mislead readers who did not think about this variability and what their risk is relative to that of the average American.
- (c) Death by lightning has distinctive properties. It is sometimes immediate, sometimes preceded by painful suffering. It can leave victims and their survivors unprepared. It offers some possibility of risk reduction, which people may understand to some degree. It poses an acute threat

at some very limited times but typically no threat at all. Each of those properties may lead people to judge them differently — and undermine the relevance of comparisons with risks having different properties.

- (d) It is often assumed that the risks being used for comparison are widely considered acceptable at their present levels. The risks may be accepted in the trivial sense that people are, in fact, living with them. But that does not make them acceptable in the sense that people believe that they are as low as they should or could be...

The second conceivable use of risk comparisons is to facilitate making consistent decisions regarding different risks. Other things being equal, one would want similar risks from different sources to be treated the same. However, many things might need to be held equal, including the various properties of risks...that might make people want to treat them differently despite similarity in one dimension...

The same risk may be acceptable in one setting but not another if the associated benefits are different (for example, being struck by lightning while golfing or working on a road crew). Even when making voluntary decisions, people do not accept risks in isolation but in the context of the associated benefits. As a result, acceptable risk is a misnomer except as shorthand for a voluntarily assumed risk accompanied by acceptable benefits.

Source: US NRC (2006; Pp. 37-38).

risk rankers care only about expected deaths, they must decide whether to treat all deaths as equal or, if not, how to weight them. For example, risks can be ranked differently, when measured by "expected probability of premature death" or "expected years of lost life" (which assigns extra weight to deaths of young people). Ranks might differ, too,

when measured in units that consider benefits (e.g., deaths per coal miner vs. deaths per ton of mined coal) or in units that consider exposure (e.g., deaths per mile travelled) (Fischhoff et al., 1981; Crouch and Wilson, 1981).

Additional choices arise when deciding how to include various kinds of morbidity, in the measure of risk. Lively

academic debates revolve around different measures of *quality-adjusted life years* (associated with different forms of harm). These measures try to put diverse risks on a common footing, by asking people how much they, personally, value different states — using structured surveys to resolve the ethical issues of defining risk.

Defining risk is complicated further when mortality and morbidity do not capture all the concerns of citizens. For example, they may also care about how voluntary exposure to a risk is, how equitably it is distributed across the population, how much of a sense of dread it evokes, how controllable it seems, how far in the future its effects extend, how well it is understood by science, how well it is understood by those exposed to it, how immediate its effects are seen, and how new it is (Fischhoff et al., 1978; Slovic, 1987). Ignoring these risk attributes can mean missing issues that are critical to policy makers or their constituents.

**Defining risk is complicated further when mortality and morbidity do not capture all of citizens' concerns**

*Too Many Possible Values.* Once the risks have been characterized, ranking can begin, bringing additional complications. Reasonable people can disagree about the relative importance of mortality and various forms of morbidity, or even about the importance of different aspects of mortality. For example, some people are more averse to risks that have *catastrophic potential*, in the sense that they can take many lives at once (e.g., aviation), compared to *chronic risks*, with the same expected death toll exacted at a more even rate (e.g., driving). Other people find it offensive not to treat all deaths equally. Those people might consider catastrophic potential, because of its *signal value*, feeling that risks that can take many lives at once may be poorly understood and managed. Similarly, some people want to have all risks treated similarly, regardless

of whether exposure to them is voluntary, whereas others believe that people get more benefit from risks that they assume voluntarily (Slovic, 2000).

A common temptation for simplifying risk ranking is comparing risks that exhibit seemingly similar magnitudes, then arguing that they should be treated similarly. A “classic” comparison equates the risk of living 50 years beside a nuclear power plant to that of eating a tablespoon of peanut butter (due to potential aflatoxin contamination).

Table 1 summarizes the logical flaws in such comparisons.

Figure 1 reveals an additional challenge to ranking risks, even when they have been reduced to a common unit. The rankings depend on what statistic is used to represent a risk whose value is not known with certainty (as is almost always the case). If means are used (as a “best guess”), the three risks would be ranked 3-2-1. If a high percentile is used (as a “worst case”), the order becomes 2-3-1. Other statistics are also possible, including different “best guesses” (in cases where the mean, median, and mode differ).

In these ways, defining “risk” raises fundamental value questions, which must be resolved before scientific evidence can be assembled, regarding the magnitude of the risks, and the ranking process begun. In principle, an organization could choose to resolve these value issues among its stakeholders, then let someone else assemble the

science and compute the ranks. In practice, resolving value issues in an informed way typically requires vigorous discussion among individuals with suitably diverse perspectives. Without such a deliberative process, the issues are unlikely to be thoroughly understood (US NRC, 1996). Typically, they are too complex for individuals to grasp fully, without hearing other people’s views. Moreover, transparent, public deliberations, by trusted individuals may be needed for rankings to have external credibility. Two decades of research and practice have produced a foundation for methods to achieve these goals.

## Ranking Risks at US EPA

The US Environmental Protection Agency (EPA) has long sought to set its regulatory and research agenda systematically. A landmark report, *Unfinished Business* (US EPA, 1987), summarized the judgments of 75 staff members ranking the risks addressed by the EPA’s existing programs, as well as risks that it might, one day, regulate. A similar process, undertaken by the EPA’s Science Advisory Board, produced *Reducing Risk: Setting Priorities and Strategies for Environmental Protection* (US EPA, 1990). Based on the framework that these reports created, the EPA established a program to encourage state and local risk-ranking exercises. After supporting several dozen such exercises, the EPA published *A Guidebook to Comparing Risks and Setting Environmental Priorities* (US EPA, 1993), with thoughtful advice on conducting respectful, scientifically informed deliberations. Seeing its foundational



**Figure 2**  
Location of 30 Hazards within a Two-Factor Risk Space



Source: Slovic et al. (1985).

work as done, the EPA funded two regional centers to support additional ranking.

Central to the EPA's approach is letting participants drive the process, in terms of which risks are ranked and how "risk" is defined. Technical experts are entrusted with creating risk estimates relevant to participants' concerns. One price paid for this flexibility and responsiveness is reduced transparency. Individuals who were not in a group must trust the work of those who were, because the rationale for their ranking is not made explicit. A second price is limited comparability. Without a standard definition of "risk," one cannot tell whether different groups have reached consistent conclusions, or pool ranking results across domains, so overall priorities can emerge.

As a result of these methodological problems and changed political conditions, systematic risk-ranking has not been a priority for the EPA recently. The US Department of Homeland Security has committed to risk-informed decision making. However, its work has involved computation, without deliberation.

### A Method for Risk Ranking

Drawing on research in risk analysis and behavioural decision research, a group centred at Carnegie Mellon University's Department of Engineering and Public Policy developed a risk-ranking procedure that adds standardization and transparency to the EPA's flexible, participatory approach. Like the EPA approach, Carnegie Mellon's recognizes the variety of risks and ways

to value them. It, too, allows participants' concerns to drive the selection and presentation of risk estimates and uses risk analysis to aid judgment, rather than to replace it. It also views well-informed stakeholders as the final arbiters of risk priorities.

The Carnegie Mellon approach departs from the EPA practice of characterizing all risks in terms of a common set of attributes, rather than allowing each ranking exercise to choose its own attributes. Such standardization is possible for two reasons: there are some attributes that most people want to consider and, hence, belong in every exercise (e.g., human mortality), and many potentially relevant attributes are correlated (e.g., involuntarily assumed risks tend to be distributed inequitably). As a result, taking a representative (or two) from a cluster of correlated attributes should address that general set of concerns. Figure 2 shows such core clusters, represented as dimensions in a *risk attribute space*.

Many other studies, with varying activities and technologies, risk attributes, risk raters, and statistical procedures, have yielded similar patterns: (a) People rate risks similarly on these attributes, even when they disagree about the attributes' importance. (b) Attribute ratings are highly correlated, typically revealing two primary dimensions, given names like *Unknown* (vertical) and *Dread* (horizontal).

Based on these regularities, the Carnegie Mellon approach characterizes all risks in terms of the same attributes, as in Table 2. Each column uses two different (but correlated) attrib-

utes to represent one dimension of concerns, trusting them to convey its meaning. The first column has two measures of mortality; one considers the age of the dead, while the other ignores it. The second column has two measures of environmental impact, developed from the dozens of indicators used in different environmental impact analyses (Willis et al., 2004, 2005). The two right-hand columns have measures representing the two factors in Figure 2.

The display in Table 2, along with accompanying explanatory materials is designed to communicate the facts needed to rank risks based on the attributes that matter to people. Like any risk communication, they needed empirical evaluation, before being used for any serious purpose (Morgan et al., 2001b). That evaluation needed to approximate the conditions in which the materials were designed to be used: the sort of moderated, deliberative group process that any credible risk-ranking would entail.

To that end, an experimental test was created, with realistic profiles of 22 potential risks in a hypothetical middle school. Research participants ranked the risks, playing the roles of citizens advising the school board of a district with limited resources for managing risks. Each risk was described in a brochure that included a tabular summary like Table 2, along with a narrative description, subject to extensive pretesting.

The deliberative process sought to respect both individual and group perspectives, building on the EPA Guide-

**Table 2**  
**A Standard Risk Characterization**

Number of People Affected	Environmental Impact	Knowledge	Dread
Annual expected number of fatalities	Ecosystem stress or change	Degree to which impacts are delayed	Catastrophic potential
0-450-600 (10% chance of zero)	50 km <sup>2</sup>	1-10 years	1,000 times expected annual fatalities
Annual expected number of person-years lost	Magnitude of environmental impact	Quality of scientific understanding.	Outcome equity
0-9,000-18,000 (10% chance of zero)	modest (15% chance of large)	medium	medium (ratio = 6)

Source: Adapted from stimuli developed and used by Willis et al. (2005).

book and the US National Research Council's (1996) influential report, *Understanding Risk*. Before meeting as a group, individuals made personal risk rankings. At various points in the deliberations, the group publicly assessed its degree of consensus, while members privately recorded their personal views. Two different ways were used to elicit judgments so participants could triangulate on their values. The process assumed that these ranks needed to be constructed from individuals' basic values, as they reflected on the issues, informed by others' views (Fischhoff, 2005).

The method was evaluated with lengthy group sessions, involving both lay people and professional risk managers. Generally, participants tended to agree about the rankings, even when they disagreed about the importance of

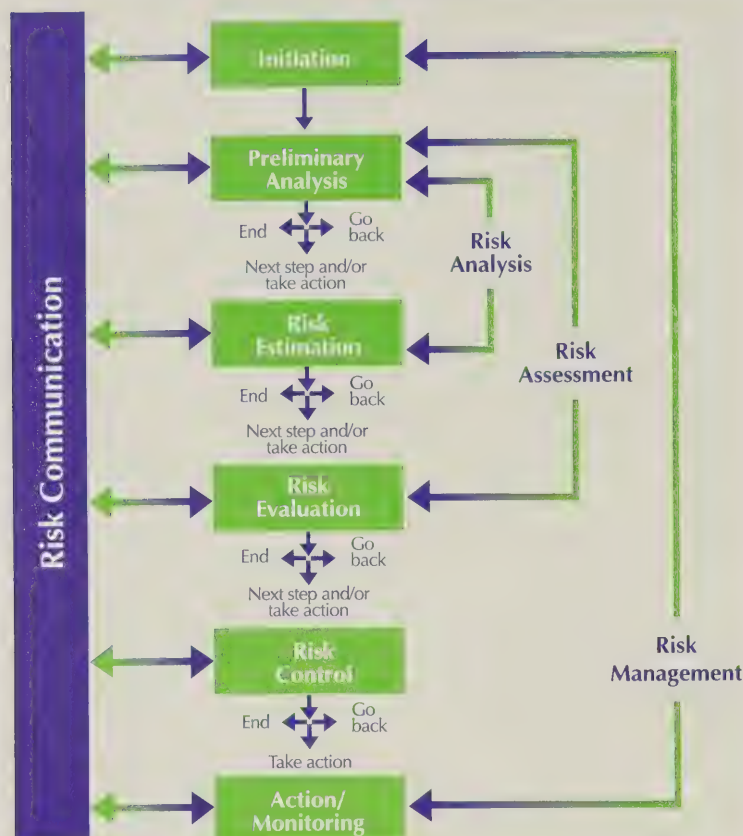
the attributes. Moreover, that agreement increased as the deliberations proceeded, without evidence of inappropriate group pressure. Details on the procedures and the evaluations can be found in Florig et al. (2001), Morgan et al. (2001a), and Willis et al. (2004, 2005), with exemplary materials at <<http://sds.hss.cmu.edu/risk/>>.

## Risk Ranking in Practice

The Carnegie Mellon approach to risk ranking applies analytical and empirical risk research within the reality circumscribed by the EPA Guidelines. Its empirical evaluations suggest that it could be trusted to support real decisions, with a wide variety of risks and stakeholders. It is grounded in extensive research regarding what risk attributes matter to people, how to characterize them scientifically, and how to present them comprehensibly.



**Figure 3**  
**Steps in the Q850 Risk Management Decision-Making Process – Simple Model**



Note: Risk communication with stakeholders is an important part of each step in the decision process.

A variant of the Carnegie Mellon approach has been endorsed by an initiative aimed at improving UK government risk management. Adapted through consultations with staff from several ministries, it is designed to be applied efficiently, without special training (HM Treasury, 2005). Called a method for “assessing concern,” it characterizes risks on six attributes: familiarity, understanding, equity, dread, control, and trust. Risks are

rated separately for how they are viewed by experts and by the public. These ratings complement scientific estimates of deaths and other harms, along with estimates of their monetary equivalents (to the extent possible).

In terms of the approach’s suitability to Canadian conditions, Figure 3 presents a risk-management philosophy, promulgated by the Canadian Standards Association, which influenced the approach’s development. The center

column prescribes a risk-management process with standard steps – although with a noteworthy commitment to self-evaluation, not proceeding until a step has been satisfactorily accomplished. The left-hand bar prescribes continuing two-way interaction with the public. That interaction seeks to focus the process on public concerns and make its conclusions as credible as possible. The Carnegie Mellon risk-ranking approach could offer a scientifically sound approach to realizing this philosophy.

In this abstract representation, possible risk levels are measured on a single dimension called risk magnitude. On this scale, having zero risk means receiving no further attention. The height of each curve (a probability density function) shows the chances of having that risk level.

The narrowness of the curves for risks 1 and 3 means that they are relatively well understood. Their location on the scale shows that Risk 1 should clearly be ranked lower than Risk 3. The flatness of the curve for Risk 2 means it is much more poorly understood than either Risk 1 or Risk 2. Its rank is also less obvious. It will more likely have a much lower risk, but has some chance of having a higher risk. It might be given a higher rank by people who were especially concerned about large risks.

Individuals from four diverse groups rated 30 activities and technologies on nine attributes (e.g., voluntariness, dread). A statistical procedure (factor analysis) identified two underlying dimensions of risk. Risks high on the

vertical factor, called “unknown risk,” were rated as new. They are not well known to those exposed to them, not well known to science, involuntary, and with delayed effects. Risks high on the horizontal factor, called “dread risk,” were rated as certain to fatal, if things go wrong, to threaten large numbers of people, and to evoke a feeling of dread. The four groups were students, League of Women Voters members, Active 20-30 Club members, and risk experts. The lines connect the highly similar results from the different groups. ●

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## Background

One of the little-noted policy achievements of recent years has been the dramatic improvement of tax policy in most countries. Barriers to trade have been greatly reduced; top marginal income tax rates have been cut by half or more; the value-added tax (by far the least distortionary of all major taxes) has gained wide currency, battering its way from non-existence in 1952 up to the top of the heap (it now yields more revenue, worldwide, than any other tax). All signs credit this impressive tax achievement to the work of the world economics profession, both in developing the analysis leading up to the reforms and in providing fuel and support in the struggle for their adoption.

are easy to identify and measure (cash flows coming in and going out), and that the measurement takes place at a single focal point (the firm's balance sheet).

But first impressions can readily mislead. The expenditure (and regulatory) side is very different from the tax side, in that it takes only a handful of people, working at the government's centre, to design and put in place a tax reform, while in comparison one needs a virtual army to carry out separate evaluations of hundreds of roads, bridges, dams, port projects, etc or of thousands of regulatory measures. It is a big mistake to lump all roads into one big bundle and say "we like roads" — and the same goes for any of the other categories of expenditures or regulatory resources. The truth is that some outcomes have benefits far in excess of costs, while for others it is the reverse. It is precisely the task of good benefit-cost analysis to identify which is which, and this basically entails evaluating the actions one by one, in a coherent and systematic fashion. Hence the need for an army instead of a handful of people to bring about meaningful progress.

Another set of issues comes into play when we consider that, unlike the case of a business firm, a responsible government would try to weigh the benefits and costs of a given project or measure, not just in terms of its impact on a well-defined balance sheet, but instead counting its effects on the welfare of the country's entire population. And in addition to this daunting task, it would want to count a number of important

# Benefit-Cost Analysis An Overview

Compared to the great advances in the tax side, countries have made little (and often no) progress in rationalizing their public expenditures. At first glance, this seems odd. Is it not quite natural to weigh benefits and costs, and then hold off on any action whose costs end up greater? This is certainly the way business firms work, but they have an easy task in the sense that benefits and costs

types of benefits and costs (like clear water, clean air, and natural beauty on the benefit side, and traffic congestion, air and water pollution, and disease contagion on the cost side).

Small wonder, then, that progress has been slow in moving toward the rigorous application of benefit-cost analysis to the full range of projects and programs on the expenditure side of government budgets including those in the regulatory reform. Does that mean that we should not try? That any new efforts would be doomed to failure? Of course not. There is ripe, low-hanging fruit out there, waiting to be picked, if only governments could mount a serious and determined effort.

### On National Parameters

In benefit-cost analysis, a major distinction is made between elements of cost and benefit that appear time and again over many (even nearly all) projects, and other elements that are quite project-specific. Elements in the replicated category can and should be studied in depth, preferably by (or under the aegis of) a central project office. Project-specific elements, on the other hand, fall naturally and almost necessarily within the responsibility of the teams that evaluate each project.

The main replicable elements are the opportunity costs, respectively, of capital, foreign exchange, and labour. The first two of these are really very general. A country's capital market senses additional demands for or supplies of funds, but rarely "knows" or even cares what sector or area happens to be generating these demands or supplies. It is

similar with respect to foreign exchange. A given demand for dollars or Euros will affect the exchange rate in the same way, regardless of whether it is used to finance foreign travel, foreign investments, or the import of materials. This means that one can speak of one economic opportunity cost of capital, and one economic opportunity cost of foreign exchange, as major national parameters.

The key element in estimating these parameters is what we call the "sourcing pattern" for the item in question. Ultimately, a new demand for wheat will be filled either through new increments of supply or through the squeezing out of other demanders. This is exactly what happens through the price mechanism as a new demand is introduced. What is true for the wheat market is equally valid in just about every other market including, of course, those for capital and foreign exchange. A new demand for capital funds will have the effects of squeezing out other national demanders, stimulating local savings, and attracting additional capital inflows from abroad. These effects are naturally produced as the new demand has its expected market-tightening impact. Similarly, a new demand for foreign exchange will be ultimately satisfied in part by squeezing out other demanders of foreign exchange (mainly importers) and in part by stimulating domestic suppliers of foreign exchange (mainly exporters).

**If there is a single basic principle governing the measurement of benefits and costs, it is "willingness to pay" and its mirror image "willingness to supply".**

To estimate the economic opportunity cost of capital, we therefore have to estimate what is the true cost to the economy, occasioned by the displacement of those investments, plus the true compensation necessary to stimu-

late those extra voluntary savings, plus the effective marginal cost, to the economy, entailed in attracting that new capital from abroad.

Similarly, when a project demands foreign exchange, we evaluate its cost in terms of the economic value of the set of imports that are displaced and in terms of

the incremental resource cost of the exports that are stimulated. Most of the time the relevant value of the lost imports will be measured by the exchange rate plus applicable tariffs, sales and excise taxes, and the relevant value of the newly stimulated exports will be measured by the exchange rate plus any applicable export subsidies (or minus any relevant export taxes).

The case of labour is more nuanced, owing to the enormous variety of occupations, skills, and specialties that comprise a country's labour force. On top of these differences, one also finds significant wage differentials across regions, and even across jobs of similar general description but with different "amenity values". Broadly speaking, the best approach to the economic opportunity cost of labour takes the market wage rate in the specific location of the project as the starting point, and then



adjusts this to account for relevant “externalities”. These are mainly personal income and payroll taxes.

Because of the heterogeneity of the labour factor, the most convenient approach is to consider the actual project outlays on labour as the baseline, incorporated in the “financial” analysis of a project. This baseline cost is then adjusted upward to account for lost taxes from each labour category in the places from which it was sourced. A downward adjustment is then added to account for the taxes paid by or for that category of labour as it is used on the project.

To summarize, outlays on tradable goods (or sales of them) have to be adjusted by a foreign exchange premium, the percentage by which the real economic opportunity cost of foreign exchange exceeds the (actual or expected) future real market exchange rate. With respect to capital, the economic net benefits or costs of each period are discounted by the economic opportunity cost of capital. In these cases, the tariffs and indirect (including value added) taxes, as well as any corporation income and property taxes actually paid by the project, are counted as part of the project’s economic benefits. They do not enter into the calculations of the “national parameters.”

In the case of labour, the payroll taxes paid separately by the project, as well as the income taxed paid by the workers, are treated symmetrically, the economic

cost of labour thus ending up as the financial cost minus taxes paid “here” plus taxes lost elsewhere.

## Valuing Benefits in Highway and Irrigation Projects

The above examples are standard elements in modern benefit-cost analysis. They are widely accepted and used, in part because the external effects involved are readily measured in dollars. A whole new set of problems arises in cases where project benefits or costs (whether direct or external) come in kind rather than in cash.

Good examples can be found in road projects (and transportation projects in general). Their basic economic benefits consist in the reduction in the costs of moving people and/or goods. Thus, a road improvement project may bring benefit in the form of reduced fuel costs, reduced wear-and-tear on vehicles, etc. These are relatively easy to estimate, and highway engineers have produced tables expressing these costs in terms of litres of fuel per 100 kilometres, tire usage per 100 kilometres, the number of kilometres that a vehicle will last on each type of road. The most important benefit of highway improvements, however, is in most cases the saving of time for drivers and passengers. Valuing this is easy for truck and bus drivers who are paid a cash wage, but for others the value of travel time is totally subjective. The uninitiated usually start by wanting to value, say, commuter time as being equal to the hourly wage of each person involved, but specialists have learned that people

value their travel time as far less than their hourly wage. How is this done? Consider the choice between going by bus and driving. The dollar cost of going by bus is lower, but the time cost is higher. Suppose the bus takes one hour (per day) longer and costs \$10 less than driving and parking. If half the people (of given income and other characteristics) choose each of these two modes, economists judge that “on average” they are indifferent, and would then place a value of \$10 per hour on their commuting time.

Irrigation projects are another case in point. We need to put a value on the water that will be provided by, say, an irrigation dam. This task is greatly eased if one finds significant use of pump or river irrigation in the region. Here one can build a hierarchy – pump irrigation water is worth more than water from a dam; and the latter is worth more than water from the river. Why? Farmers can pump water when they need it most, while river water is available only in quotas based on current stream flow. An irrigation dam adds to the value of river water by storing water in periods of low farm demand, and saving it for the periods when farmers need it more. But a dam tries to deliver water when the farmers want it “on average”. The water is not as effective as pump irrigation, which each farmer can tap into, exactly when wanted.

If there is a single basic principle governing the measurement of benefits and costs, it is “willingness to pay” and its mirror image “willingness to supply”. These concepts, known to

economists as “competitive demand price” and “competitive supply price”, have been at the core of applied welfare economics for more than 150 years.

They build on the fact that if you are unwilling to pay \$1.01 for an item but willing to pay 99 cents, there must be some point between these two prices at which you are exactly indifferent between the item and whatever package of other things you would choose as its alternative. The same kind of reasoning applies to the sellers of an item. For most marketed goods and services

this pair of principles works nicely and it leads to our taking market prices as measures of benefit and cost, the prices being inclusive of taxes on the demand side (measuring what demanders really pay), and net of taxes on the supply side (measuring what suppliers really get).

### Valuing Benefits in Other Areas

These principles can in many cases extend to items that have no direct market. Thus, for highways, we conceive of the total “price” that drivers would be willing to pay for each trip, and for irrigation projects the price that a farmer would be willing to pay for each successive cubic metre of water. But these concepts are hard to apply to programs of early childhood education or medical research, or national defence.

In such challenging areas, economists have had to reach deeper into their bag of tricks. One solution entails working with the increment to national product

that a given project would make possible. Thus early childhood education leads to people being better prepared for regular school, to their staying in school longer, and to their having greater earning power over their working lifetime. The increment to real earnings is then taken as the benefit, from which the costs of the early education itself plus the induced increments to

education are then deducted. A similar approach is sometimes taken to estimate the benefits of medical programs that add to the working lifetime and hence to the lifetime earnings of their subjects. One cannot deny the plausibility and usefulness of these measures of benefit, but we must recognize that they are extremely rough, and that they neglect important aspects of benefit. Are there not intrinsic benefits to many types of education – greater appreciation of life, greater capacity to cope with life’s challenges, etc. – that are present even when the subjects follow careers that pay no more than the alternative (e.g., teachers rather than plumbers)? Likewise, do not medical advances provide significant benefits, even for retirees and housewives whose earnings are zero whether or not a given medical project is undertaken?

### Broadening the Reach of Benefit-Cost Analysis

These rhetorical questions only open the door to a whole panoply of challenges for benefit-cost analysis challenges that will keep us busy for a very long-term future, but on which we will gain by pecking away at one problem after another, refining our capacities at each step. An example is the concept of “quality life years”. One often hears that a given advance in medicine or public health has avoided “x thousand deaths” from, say, pneumonia or malaria. But clearly every human being dies sooner or later, and, indeed, avoiding a death from pneumonia may simply mean that a given subject will die a month later from the flu. Thinking along these lines led benefit-cost analysts to focus on the number of months or years of extra life made possible by a given project or innovation. The next step was to recognize that these added years may turn out to be of low or dubious value in cases where the patient is bedridden, comatose, or otherwise impaired. This led to the concept of quality life years, which implicitly counted only the good time involved in life extension. These advances have merits, because they apply clear thinking to a complex and difficult problem. But they leave us with the further challenge of placing a monetary value on these quality life years.

How can we put a value on such years? Once again, the historical starting point in answering such a question was earnings, but economic theory brought this into question. The basic line of thought is that most people “choose” leisure, in



the sense that they could readily find a second job or work longer at the first one. That means that their “willingness to pay” for leisure hours is at least as great as the wage they could have earned by working more. Following this line of reasoning, the benefit of the 2,000 hours that most of us work a year is equal to our earnings per hour minus the disutility of work. The net gain on these hours may thus be quite small, depending on how agreeable or disagreeable our job is. But the 6,760 hours of leisure all have a value that is higher than the wage we could have earned by working more. This leads to a valuation of quality life years at a multiple of a working person’s standard earnings.<sup>1</sup>

Readers will appreciate that our solutions are far from perfect. But hard work and considerable ingenuity have helped us to make significant strides in extending the reach of benefit-cost analysis into new territory. One key piece of advice deserves repetition. It is better to proceed cautiously than to leap ahead rashly. In “selling” a project, one is on very solid ground if one can plausibly argue that this project is acceptable in spite of our having consciously underestimated its benefits and overestimated its costs. Thus, returning to the medical arena, many projects will turn out to be justified even if we value quality life years at the annual earnings of similarly qualified active

workers. This is very likely a huge underestimate, given that economic analysis and empirical evidence argue in favour of a significant multiple of annual earnings.

In other areas, use can be made of the principle that no benefit should be counted that is greater than the alternative cost of producing the same benefit. This principle has been the gold standard of benefit-cost analysis in electricity projects. Here we are lucky to have genuine, well-defined standard alternatives, consisting of the generating equipment produced by such firms as General Electric, Siemens, and Mitsubishi. When faced with the task of evaluating a hydro-electric or geothermal project, we ask the question, what would it cost to produce a similar pattern of energy output, using equipment from the GE catalog? That alternative cost is what we save by embarking on the hydro or geothermal project in question.<sup>2</sup>

### **Poverty, Income Distribution, Basic Needs**

This overview would not be complete without mention of the set of issues connoted by such terms as income distribution, the fight against poverty, helping the disadvantaged, etc. The temptation in this area is to buy into the idea of distributional weights, and apply them consistently in the analysis. A distributional weights framework

entails giving different weights to the net benefits of different people. For example, a person or family with an income of \$20,000 might be given a weight of 2 (meaning an extra dollar of benefit to them counts as \$2 in the benefit-cost analysis), while a person or family with an income of \$200,000 might be given a weight of 1/2. Despite its initial appeal, this system does not reflect the true values of real-world societies. In the example, the distributional weights principle would urge the approval of a project or policy that would take \$10 million from people with a weight of 1/2 (meaning a social cost of \$5 million), and end up (owing to administrative costs and economic inefficiencies) delivering benefits value at only \$3 million by recipients with a weight of 2 (meaning a social benefit of \$6 million). This sort of large and drastic trade-off between distributional considerations and economic efficiency would insinuate itself into every nook and cranny of economic policy if we really believed in a distributional weights framework.

The sensible alternative to distributional weights is a framework built on basic needs externalities. This framework is based on the idea that society is willing to pay some extra amount (a premium) for reducing the degree to which the basic needs of the poor remain unmet. The basic needs framework is frankly paternalistic. It does

1 Such results have been confirmed by empirical studies of risky employment. By how much do earnings on a given dangerous job exceed those of a safe one for a similarly qualified worker? This comparison leads to an implicit valuation of life years, typically much larger than annual earnings.

2 This is a stylized, simplified example. Real-world, benefit-cost analyses work with the entire electrical generating system. The expected pattern of demand is projected to future years, and production is optimized by minimizing the expected cost of meeting this projected demand. This optimization is performed “with” or “without” the specific project being analyzed. The project is deemed acceptable if the present value of all (investment plus operating) costs is lower “with” our contemplated investment than without it.

not approve of giving money to the poor if it is spent on drinking, gambling, or other vices or frivolities. But it applauds the use of public funds to further the education of the poor, expand their access to medical care, and improve the level of their nutrition and the quality of their housing. Evidence in favour of the basic needs framework comes from the practice of governments all over the world. Probably no social policy has wider acceptance than the idea of universal free primary education; all but the poorest of governments have some sort of policy to deliver free or subsidized medical care to those who cannot otherwise afford it; food and housing subsidies for the poor likewise have widespread acceptance. What these policies all have in common is the use of public funds to provide subsidies “in kind,” not “in cash,” that help meet people’s basic needs. From the point of view of benefit-cost analysis, the great value of a basic needs framework is that it can be formalized and incorporated into our analytical structure without exaggerated and troublesome implications like those of distributional weights.

In a basic needs system, policy makers would determine a schedule assigning premiums to the meeting of basic needs. Perhaps the premium would be 50 percent to bring a person from a nutrition index of, say, 80 to one of 82 but would be only 25 percent to take

one from 85 to 87 and only 5 percent to take one from 90 to 92. After a certain point, say index level 95, the premium would be zero. Such a basic needs framework is totally flexible. A stingy, austere government could set the initial premium at only 15 percent and reach the zero point at index level 90. A deeply concerned government might start with a premium of 100 percent and reach zero only at index level 110.

The basic needs framework can be used to cover specific projects in the fields of medical care, housing, nutrition and education, but it also has strong implications for projects that reach the poor simply by affecting their incomes. This is because a project that raises a family’s income from \$15,000 to \$20,000 will have a reasonably predictable impact on that family’s spending on the various basic needs. It will move that family, say, from index 80 to 82 in the quality of its housing, from 86 to 88 in the index of its children’s education (staying in school longer), maybe from 90 to 93 in its level of nutrition. The project would thus receive extra “points” based on the values of these basic needs externalities in their respective ranges.

In the field of benefit-cost analysis, there is no room for pomposity or triumphalism. Dedication and humility and a great deal of hard and serious work are required. But let there be no doubt, we have made very significant

strides since the very early days of benefit-cost analysis, and there is every reason to anticipate further gains, provided only that we apply the required intensity of effort.

## The Achilles Heel

Sadly, this overview ends with a cautionary note. The most obvious reason for instituting benefit-cost analysis as a serious real-world policy is a tendency for many projects to be approved even though their costs far exceed their benefits. It is all too easy for this to happen because it is very common for the benefits of public projects to be concentrated in a particular area and/or on a limited group of beneficiaries (i.e., the group of farmers served by an irrigation dam). These beneficiaries think the project is the greatest thing in the world, even when it costs might be twice its benefits. And of course, from their own perspective, they are right. They are receiving all or nearly all the benefits of the project, but they bear maybe only 5 or 10 percent of its costs. Those who suffer are the country’s taxpayers, who pay the other 90 or 95 percent of the costs. But, for any given project, these costs are so widely dispersed that no given taxpayer pays very much. Thus, there is little incentive for taxpayers to try to organize to defend these highly dispersed interests. It is precisely the role of a formal system of benefit-cost analysis to defend the general interest in opposition to the clamour of one after another clique of beneficiaries, urging the implementation of ever more bad projects.



This sad tale does not end here. Politicians and administrators are prone to respond to the pressures of beneficiary groups, and can be easily led to support bad (as well as good) projects. Often, they do not even notice the difference. But even outside the public sector we find trouble. Most of the actual work of cost-benefit analysis is carried out by private consulting firms, staffed by professionals. Yet most of the time these firms are hired by entities that have a stake in the outcome of the analysis. In nearly every case, the entity that pays the bill is on the side of the project's being approved. Hence the incentive to exaggerate benefits and understate costs.

Charlatan firms do not hesitate even to invent benefits, so long as they sound plausible. But even highly professional, self-respecting entities can fall prey to the subtle temptations stemming from the knowledge that the client would like to see a particular outcome. Thus, when the estimated fuel cost might reasonably have an upward trend, they might be content to use its recent price as the standard estimate over the whole project's life. Or else make no provision for the projected rise in real wages or the likely future appearance of lower-cost alternatives. Or else simply lean to the low side of the plausible range for the prices of the project's inputs. The tendency to introduce this kind of subtle bias into the analysis is, sad to say, only human, and it is very hard to avoid or prevent.

Our best answer, to date, is professionalism plus transparency. The best policy is for all (or nearly all) public sector project evaluations to be made public as soon as possible. This presents the opportunity for charlatan firms to be unmasked and disgraced. But perhaps more important, it gives each professional person involved in benefit-cost analysis the incentive to fight back against the subtle temptations that lead to biased results. The dictum that a person's greatest asset is his good name can be made to apply also in the world of benefit-cost analysis. Developing this sort of ethic, side by side with advancing the science and methodology of benefit-cost analysis, is the way we need to go! 🍌

## Book Review

### Regulatory Capitalism

*Author: John Braithwaite*

Contemporary societies have more vibrant markets than past ones. Yet they are more heavily populated by private and public regulators. This book explores the features of such a regulatory capitalism, its tendencies to be cyclically crisis-ridden, ritualistic, and governed through networks. New ways of thinking about resultant policy challenges are developed.

At the heart of this latest work by John Braithwaite lies the insight by David Levi-Faur and Jacint Jordana that the welfare state was succeeded in the 1970s by

regulatory capitalism. The book argues that this has produced stronger markets, public regulation, private regulation, and hybrid private-public regulation as well as new challenges, such as a more cyclical quality to crises of market and governance failure, regulatory ritualism, and markets in vice. However, regulatory capitalism also creates opportunities for better design of markets in virtue, such as markets in continuous improvement, privatized enforcement of regulation, open source business models, regulatory pyramids with networked escalation, and meta-governance of justice.

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Over the past decade we have seen a remarkable increase in quantitative policy analysis and regulatory impact analysis worldwide, much of it in the areas of health, environmental, and safety regulations. While interest in quantitative regulatory impact analysis has waxed and waned over the decades, there appears to have been a resurgence in interest in quantitative assessment of environmental policy (see literature reviews in Howlett and Lindquist 2004; Jacobs and Associates 2006a, 2006b; Graham, 2007). What is the source of this increased interest in quantitative analysis? What are the benefits and limitations of this approach,

environmental policy are touted as reducing the costs of achieving policy goals and/or providing incentives for technological improvements associated with environmental quality. How has Canada been doing on this front?

I answer these questions by exploring the link between economic analysis and environmental policy, as well as the extent to which a new synergy is developing between these two areas. I also examine the rationale behind linking environmental policy and economic analysis, and I assess Canada's progress in this area.

### **Regulatory Analysis in Policy**

Regulatory impact analysis, including benefit-cost analysis and quantitative policy analysis, is a method of analyzing the quantity and distribution of the benefits and costs arising from proposed regulatory change. This approach can be applied to regulatory options or to investments in infrastructure. It is one of several variants of benefit-cost analysis.

Recent reports by the Organisation for Economic Co-operation and Development (OECD) (2007) and Jacobs and Associates (2006a) highlight the dramatic worldwide increase in regulatory analysis. The number of OECD countries requiring regulatory analysis grew from near 0 to 10 between 1974 and 1994, and from 10 to 26 between 1994 and 2005. Jacobs and Associates describe regulatory analysis as the "norm of democratic governance in modern industrialized countries" (2006b: 8). The use of regulatory

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## **Economic Analysis of Policy and Market Based Instruments**

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particularly in the area of environmental policy analysis? Is Canada keeping up with the rest of the world?

A similar worldwide trend is the increase in use of market-based instruments – or the incorporation of incentives into environmental and natural resource policy. These approaches to



analysis across countries is relatively uneven. Since 1981, over 20,000 rules have been subject to some form of regulatory analysis in the United States, and over a thousand of these included full benefit-cost analysis (Jacobs and Associates, 2006b). A large number of these cases examine environmental, health, and safety regulatory changes (Graham, 2007).

## Regulatory Impact Analysis in Canada

So how does Canada compare with other OECD countries in terms of the quantity and quality of regulatory analysis? Unfortunately, the evidence in the literature is not encouraging. First, I should point out that Canada currently “requires” benefit-cost analysis of regulatory change (Canada, Privy Council Office, 1999). In addition, several federal and provincial agencies describe the need to assess benefits and costs of policy options and regulatory alternatives. However, Vining and Boardman (2007) state that Canadian policy makers view quantitative policy analysis as difficult, and hence rarely use it. Likewise, Jacobs and Associates (2006b) report that Canada has declined from being a world leader in regulatory analysis to a country that lags behind several other OECD nations.

For example, how is Canada doing in the economic analysis of environmental policy? In 2004, an OECD report found that benefit-cost analysis is seldom used in environmental policy decisions in Canada (OECD, 2004). Many analysts both within and outside

of Canada have raised concerns about this lack of regulatory analysis of environmental policy (Adamowicz, 2007). But are such concerns valid? Is regulatory analysis good for society?

A survey of the literature reveals benefits of using quantitative regulatory analysis, such as:

- selection of regulatory options that result in a better allocation of resources;
- formal assessment of the costs and benefits of policy options, resulting in better understanding of impacts and an indication of where the uncertainty about impacts is greatest;
- more transparent decision making – especially when selecting regulatory options that are not the most efficient, or when suggesting options where costs exceed benefits;
- increased accountability of government agencies; and
- more capacity within agencies regarding the impacts of policy.

For example, Sunstein (2002) reports on regulatory analysis conducted by the United States Office of Management and Budget, in which the benefits of regulations adopted significantly exceed the costs. Graham (2007) shows that net benefits of federal regulation increased from about US\$50 billion between 1993-2001 to approximately US\$150 billion between 2001 and 2006. The improved efficiency in policy making in the latter period illustrates the power of regulatory analysis.

Sunstein (2002) also goes beyond the “standard” economic arguments in providing reasons for rigorous benefit-cost analysis and regulatory impact analysis, particularly in environmental and health policy. He argues that formal analysis will help alleviate a host of “heuristics” that individuals typically use in framing and making decisions. These heuristics include the availability heuristic (for example, overemphasizing a risk that has recently been experienced or made “available”) and probability neglect (placing insufficient emphasis on the probability of an outcome and focusing on the consequences should the event occur), as well as other heuristics such as outrage and myopia. Interestingly, Sunstein claims that the strongest support for benefit-cost analysis is not in the economic arguments made about its use, but in the behavioural aspects of decision making: in other words, the notion that individuals’ use of heuristics translates to use of heuristics by decision makers, and thus to poor policy decisions. Though controversial, the important concept of this argument is that formal, structured presentations of costs and benefits can be useful because they provide information to the policy process, as well as to the public at large.

So what are the downsides of quantitative regulatory assessment? At a conceptual level, there are a number of concerns. A common cause for unease is that the process is not “democratic,” in that benefit-cost analysis relies on monetary assessments rather than voting or political processes (Ackerman, 2008). There are two responses to this

critique. First, benefit-cost analysis may actually be more inclusive than political processes, because it attempts to identify effects on all members of the society, not solely on interest groups or “stakeholders.” Second, regulatory impact analysis often includes distributional assessments and/or the evaluation of goals beyond economic efficiency (Vining and Boardman, 2007).

Another conceptual concern is that only factors that can be quantified will be included in a regulatory analysis, leaving the more qualitative impacts as mere footnotes in the analysis. This can be a significant problem in the area of environmental policy, where quantitative information may be lacking. But careful analysis should identify issues that are not easily quantified, leading toward a multi-goal analysis in those cases. Such challenges in analysis or data should also be considered signals for the need to invest in research.

A third concern arises from the difficulty of measuring benefits related to health risks, environmental decline, and other difficult-to-value matters (Ackerman, 2008). Consider policy regarding threatened and endangered species. Under Canada’s *Species at Risk Act*, the socio-economic costs and benefits of listing and recovery planning for a particular species are to be considered. But

uncertainties often arise in measuring the impact of the recovery plans or actions. In addition, the economic benefits of threatened species recovery are

**Though controversial, the important concept of this argument is that formal, structured presentations of costs and benefits can be useful because they provide information to the policy process, as well as to the public at large.**

usually *passive use values*, and are therefore difficult to quantify because of the lack of a behavioural trail linking recovery of a species to economic activities or markets (Adamowicz, 2004). Although these are legitimate concerns, the field of environmental valuation has made significant strides in the past two decades, especially on the issue of health risk valuation. Uncertainty regarding measures of value

should be incorporated into the analysis, and not used as a rationale to disband the approach.

There are also a number of technical challenges to benefit-cost analysis. The choice of the discount rate, for example, almost always raises considerable controversy. The recent *Stern Review* (Stern, 2006) on the economics of climate change illustrates this issue. The critiques of the report have focused on the selection of a relatively low social rate of discount (e.g. Weitzman, 2007). Finally, the cost of the regulatory analysis is itself an issue. Each year, government agencies propose a profusion of rules and regulations. In-depth analysis of each one would be prohibitively

expensive. A scoping analysis could help identify those that require in-depth assessment.

None of these limitations are insurmountable, given the appropriate choice of policy analysis technique. So why is Canada falling behind other OECD countries in regulatory analysis?

The answer lies in our institutional framework. The Canadian landscape for regulatory analysis is somewhat fractured in terms of guidance documents, capacity, examples, and approaches for review and quality control. The guidelines provided by the Treasury Board of Canada Secretariat (Canada, Treasury Board of Canada Secretariat, 2007) are useful as a general guide, but they do not provide a sufficient framework, or incentives, for choosing the appropriate analysis technique, measurement approaches, peer review guidelines, or presentation requirements. Canada may want to learn some lessons from the United States, where a single agency — the Office of Information and Regulatory Affairs — is effectively responsible for oversight and quality control in analyzing a wide range of regulations. Although there are concerns that such an approach is too centralized and rigid, and that political influences can outstrip the regulatory analysis, such an approach provides economies of scale and generates relatively standardized approaches for analysis.

Another often-overlooked benefit of centralizing analysis is the feedback between analysts and the scientific community. In this case, the long-term



relationships fostered by a centralized agency can help ensure that researchers tackle the most pertinent problems.

Another challenge for Canada is its limited and fragmented capacity for rigorous analysis. Howlett (2007) suggests that though analytical capacity in the federal agencies has been maintained reasonably well, it is unlikely this capacity can keep pace with the increasing complexity of policy questions (climate change, electromagnetic field issues, water resources, etc.). Capacity in other agencies, including provincial governments and non-governmental organizations (NGOs), appears to have declined significantly (Howlett, 2007; Howlett and Lindquist, 2007). These agencies are often on the firing line with a host of issues such as natural resource management, land use, species at risk, and air and water quality. To stem the decline in analytical capacity, Howlett and Lindquist (2007) explain how policy analysts could be better trained. They suggest building the curricula in policy schools to go beyond general analysis skills. Finally, the international comparison by Jacobs and Associates (2006a, 2006b) illustrates the current lack of institutional features that could build analysis capacity, such as peer review, guidance documents, and quality control processes.

**By improving agencies' capacity to conduct economic analysis, as well as the communication between the policy research community and the regulatory agencies, we will be better positioned to make these choices.**

**The Use of Market-Based Instruments in Environmental Policy**

Just as regulatory impact analysis has been identified as a way to improve resource allocation, the use of market-based instruments is seen as a way to reduce the costs of achieving environmental goals or providing incentives for improving the quality of the environment and developing environmental technologies. A variety of mechanisms have been developed to reduce the impact of externalities and align environmental goals with the economic system (Stavins, 2001). There have been few systematic analyses of the use of market-based instruments in environmental policy around the world, but anecdotal evidence suggests a widespread movement toward such incentive-based environmental policy. The United States has a wide variety of incentive-based programs, such as tradable emissions permits, transferable water rights, and tradable land use development rights (e.g. Stavins, 2001). Europe is addressing climate change concerns with a cap and trade (or tradable emissions permits) approach for carbon dioxide (Ellerman and Buchner, 2007). Australia has not only integrated tradable water rights and pricing to address water scarcity (Young and McColl, 2003), but it has also been

experimenting with market-based approaches for carbon management and the provision of environmental goods and services (Stoneham et al., 2003). Market-based instruments are not appropriate in all cases (see, for example, Pannell, 2008 for a discussion of instrument choice in a land-use context), but interest is growing in finding ways to provide incentives for environmental improvement.

Has Canada also been increasing its use of market-based instruments? Not according to a 2004 OECD country study on the environment: "Market based instruments are insufficiently used to foster integration of environmental concerns into sectoral policies; too much emphasis is given to soft instruments like voluntary guidelines or partnerships" (OECD, 2004: 97).

However, since that report was published, many market based ventures have been implemented in Canada, such as:

- tradable water rights in Alberta (Nicol and Klein, 2006);
- the British Columbia carbon tax;
- the Alberta emissions charge or carbon offset requirement for firms exceeding their carbon intensity targets <[www.carbonoffsetsolutions.ca](http://www.carbonoffsetsolutions.ca)>; and
- more use of incentives for beneficial management practices to reduce water pollution from agricultural sources <[www.al.gov.bc.ca/apf/env.html#bmp](http://www.al.gov.bc.ca/apf/env.html#bmp)>.

In addition to these, other market-based programs are being investigated and evaluated across Canada <[www.sustainableprosperity.ca](http://www.sustainableprosperity.ca)>.

While exciting new initiatives have begun, Canada is still a long way from embracing the apparent global wave of incentive-based policies in environmental management. This may be partly due to our institutional lack of familiarity with such approaches – there is a “learning by doing” aspect to policy (Adamowicz, 2007). There are also concerns regarding “commoditization” of environmental goods and services such as water, as well as fears that market-based approaches will reduce our industrial competitiveness. Some have suggested, however, that the key reason for the slow adoption of market-based instruments in Canada is a lack of capacity within regulatory agencies (Renzetti, 2005; Horbulyk, 2005). The capacity challenges associated with multiple agencies and jurisdictions is similar to both market-based instruments and regulatory analysis. Not all environmental policy issues can or should be addressed using market-based approaches. However, analytical capacity is required to judge these cases and determine if and when market-based instruments are beneficial.

### The Way Forward – Integrating Economic Analysis and Environmental Policy in Canada

Various reports suggest that Canada is lagging in its use of regulatory impact assessment and adoption of market-based approaches to environmental policy. If this is true, how are we to catch up?

We can get part of the way forward by developing a better institutional framework for analyzing policy. Such a framework would require rigorous guidelines for policy analysis, as well as systems for peer review and assessment. And once in place, it would provide incentives for building the capacity required to conduct rigorous analysis. But building capacity depends on educational institutions’ providing high-quality training with an eye to uniquely Canadian policy issues and frameworks.

The development of an agency with a strong oversight role, or “challenge function” (Jacobs and Associates, 2006a), much like the United States Office of Information and Regulatory Affairs, could help address the apparent weaknesses in Canadian policy analysis and regulatory assessment. Such an agency could generate increased capacity and economies of scale in policy analysis. It would also create a demand for improved analytical capability in other sectors (NGOs, industry, provincial agencies), and likely engage the research community in addressing challenging issues, such as discounting, valuation, and distributional analysis.

Developing capacity may also be the key to adopting appropriate market-based approaches for environmental protection. The tide is turning, but increased opportunities to learn by doing and to develop a level of comfort with market-based approaches would aid in implementation of these approaches where they are best suited.

Environmental policy questions are increasingly complex. In particular, issues surrounding the environment, health, and safety are becoming more multidisciplinary, and they are often fraught with uncertainties (Arrow et al., 1996). An organized and quantitative approach to policy analysis is one of the few relatively transparent ways of examining options. Similarly, integrating market-based approaches into environmental policy may provide for a cleaner environment without compromising economic performance. However, making choices between regulatory approaches and policy options depends on our ability to assess these options. By improving agencies’ capacity to conduct economic analysis, as well as the communication between the policy research community and the regulatory agencies, we will be better positioned to make these choices. 🌱

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## Introduction

Senior management requires accurate and consistent information for decision making, both regulatory and non-regulatory. A key tool that department analysts use to get that information is the Regulatory Impact Analysis Statement (RIAS), which must be prepared for every regulatory submission. The RIAS, which provides a background and rationale for the proposed initiative, requires an analysis of benefits and costs to determine if a proposed regulation is the best alternative for Canada. A third economic component, distributional analysis, adds to the picture by identifying potential consequences for specific regions or groups in Canada. While not required, a distributional analysis helps in assessment

analysts must express benefits and costs in quantitative terms whenever possible, many regulatory situations are not suited to numeric analysis. Often this is due to shortage of information on which to base a quantitative appraisal. And in some cases, the scale of the initiative and its potential effects are so minor that they do not warrant a full quantitative analysis. In these instances, a qualitative assessment of benefits and costs is the right choice.

The characteristics of a true qualitative analysis are different from quantitative approaches, so the analyst must approach it differently. We outline some of these differences, focusing on data collection and the applicability of qualitative analytical techniques in regulatory analysis. First, we describe the more familiar quantitative analysis of benefits and costs. Then we outline the principal elements of a qualitative study. In conclusion, we consider how qualitative analysis can complement quantitative analysis.

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# Qualitative and Quantitative Analysis in Economic Evaluations to Support Decision Making

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## Quantitative Analysis of Benefits and Costs

A regulation implies some influence on private parties to limit or change behaviour – for example, by setting standards or enforcing a ban. Since this affects regular activities, it imposes a cost on the involved parties. For industry, this often takes the form of increased compliance investments, such as the cost of obtaining a new technology or switching to a new input in the production process. As new equipment or materials are purchased through the market, the cost has a monetary value that is easily understood and observed.

of whether the proposed regulation is an equitable means for achieving the objectives of the proposed regulation.

While the 2007 federal Cabinet Directive on Streamlining Regulation indicates that regulatory economists and



For example, a pollution control regulation may require the installation of scrubbers on smokestacks. The scrubbers would be purchased, installed, and maintained at a cost to the polluting firms; this is the regulatory compliance cost that they must pay.

Conversely, benefit values are not always so easily observed, estimated, and compared. This is because the benefits of a regulation, such as improved human health or a cleaner environment, are not traded in markets. Therefore, monetary values cannot be easily applied to them. Techniques to reveal the value that society places on these benefit categories study the preferences of individuals and the trade-offs that they are willing to make. If these trade-offs are measured in dollars, then this monetized measure of a regulation's benefits can be compared with the market-measured costs. If the benefits are greater than the costs, then the regulation is efficient from an economic perspective. This indicates that the proposed regulation would probably benefit society.

### Obtaining Quantitative Data

The ideal data for a quantitative benefits analysis derives from primary research efforts, such as a survey of stakeholders, tailored to the scenario in question. The survey would identify stakeholders' preferences for a variety of

circumstances surrounding the proposed regulation, as well as their willingness to trade to achieve their best outcome. However, because conduct-

ing a primary survey is costly and time consuming, it is justified usually only for large-scale regulatory initiatives.

An alternative data source is a benefits transfer, in which estimates of non-market values from a study developed for a different context are transferred to the regulatory context (Bateman et al., 2000). This typically yields reliable and defensible data for quantitative analysis when a transparent protocol is applied to identify appropriateness, such as Environment Canada's Environmental Valuation Reference Inventory (Environment Canada, 1998). This credibility, combined with the significantly lower cost of conducting a benefits transfer rather than a primary survey, has made it a widely accepted way to obtain study values.

### Qualitative Regulatory Assessment

The term "qualitative" is commonly applied to any analytical process that uses non-mathematical or statistical approaches to summarize findings, gauge impacts, or report outcomes.

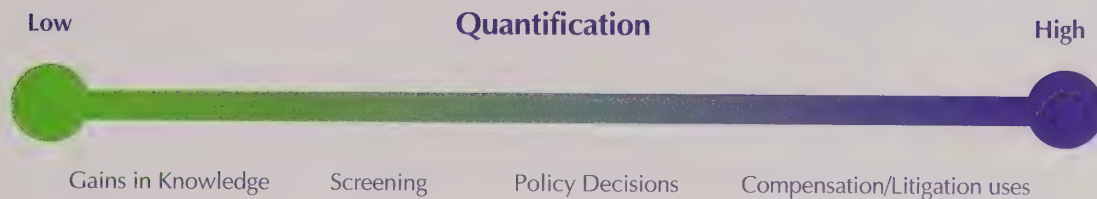
Although a qualitative study does not always carry the same weight as a quantitative analysis, the term does not necessarily imply a lack of analytical rigour.

A well-conducted qualitative study is simply an alternate means of interpreting potential effects on stakeholders. The objectives are often different than they would be in a quantitative study, since qualitative methods make sense of phenomena in terms of the meanings people bring to them (Greenhalgh and Taylor, 1997).

As an example, consider a regulatory initiative designed to lower public risk of contracting a food-borne illness. Though the analysis of the compliance costs and measured benefits of the proposed regulation is quantitative, the preliminary assessment of public concerns is qualitative.

In the most basic form of qualitative analysis, likely for a low-impact proposed regulatory initiative, a professional judgment of expected effects could serve as the basis for the economic evaluation of benefits, costs, and distributional issues. If a regulator believes that the initiative will cost stakeholders little or nothing, but will yield positive benefits, a statement that net benefits are expected to be positive may be sufficient. An example would be an amendment to production standards to reflect current technological processes used in an industry. The purpose of this amendment is to reduce risk to human health by keeping firms that do not conform to a high quality standard out of the market. Costs would be negligible, yet the likely benefits include increased public confidence in consumer products. While difficult to measure, this would likely be positive.

**Figure 1**  
**Continuum of Quantification**



Source: Adapted from Bergstrom and De Civita (1999).

This type of case often employs “best judgment” analyses, which admittedly may be imprecise. However, this could be acceptable for applications that do not require a high level of accuracy. This concept is supported by the “continuum of quantification” proposition (see Figure 1). This states that the required degree of quantifying data depends in part on how the results will be used. Figure 1 shows the range of the continuum, from “low” for gains in knowledge or priority setting cases, to “high” for compensation or litigation cases. While “policy decisions” are located more to the right of the scale, suggesting a need for greater quantification, a low-impact regulatory initiative could not justify conducting a primary survey, whose cost would be significantly more than the benefit of the regulatory initiative. Here, as in all cases, the effort invested should be proportional to the expected outcomes.

### Obtaining Qualitative Data

When an analyst determines that a study should be conducted qualitatively from project conception, the term “qualitatively” takes on a different meaning. Rather than conducting an analysis based on insufficient or unavailable data, a researcher carrying out a true qualitative analysis has identified a particular need that requires an assessment of processes and meanings rather than quantity, amount, or frequency (Labuschagne, 2003). To do this, analysts gather information through techniques such as observational studies, in-depth interviews, and focus groups. All these methods involve analyst interaction with small groups of participants, either directly or indirectly. Data collection and analysis are time-consuming and therefore costly, but when done appropriately they “are a source of well-grounded, rich descriptions of processes in identifiable, local contexts” (Miles and Huberman, 1994).

### Using Both Quantitative and Qualitative Analysis

In practice, regulatory analyses rarely rely exclusively on either qualitative or quantitative information. They often require some blending of both. For example, qualitative assessments (such as those developed through focus groups) can play an integral role in developing quantitative estimates.

In addition, even where many of a proposed regulation’s impacts can be quantified and monetized, a benefit-cost analysis often reveals some potentially important benefits (or costs) that cannot be readily or reliably expressed in numeric terms. In such instances, the analyst should explain to decision makers that these important non-monetized outcomes exist and need to be taken into account alongside the quantifiable results. The triple bottom line approach is one way to capture and convey such information (see text box).



### **An Example of Qualitative Assessment: The Triple Bottom Line Approach**

As the name implies, the triple bottom line (TBL) approach reflects how policies or enterprise activities influence three bottom lines: (1) a financial bottom line, which reflects the traditional internal cash flow accounting stance of businesses; (2) a social bottom line, which reflects external consequences on others in society, embracing concepts such as fairness, economic opportunity, or security; and (3) an environmental bottom line, which reflects effects on natural systems such as waterways, air quality, or fisheries. The intent is to capture both the internal (e.g. financial cash flows) and external (social and environmental) repercussions of a proposed policy or activity.

The TBL approach was conceived in the context of sustainable development (Elkington, 1997). It can also be applied as a form of benefit-cost analysis. One of its advantages is that it can accommodate qualitative and/or quantitative information, and it can be deployed in a manner that can convey the likely outcomes of policy options to decision makers and stakeholders (Raucher and Garvey, 2007).

An application of the TBL approach can be entirely qualitative, providing an organizing framework within which an analyst can categorize and describe the types of benefits and costs associated with a proposed regulation. A qualitative TBL assessment also can be extended to reflect the expected relative magnitude or importance of each benefit or cost (low, medium, or high). Furthermore, if quantitative information is available, it too can be included in a TBL report. The objective is to ensure that all the important consequences of a proposed regulatory initiative are brought to the decision makers' attention in a systematic, organized, and comprehensive manner.

### **Qualitative Analysis within the Context of Economic Valuation**

Economics is a science that studies social preferences and expresses them in monetary units for comparative purposes. However, reaching the stage where monetary values can be applied to a potential benefit for comparison to costs requires numerous inputs, both numerical and conceptual. This is not feasible when the participants from whom information is gathered consist

of small groups or individuals. This is because the results of these discussions cannot be generalized to the overall population, since these groups would not be representative or of sufficient sample size. On the other hand, in a medium- to large-scale economic evaluation of benefits and costs, there is nearly always a role for qualitative techniques in the process of obtaining societal values.

Consider a proposed drinking water disinfection regulation, where one treatment scenario would reduce the risk of microbial infection for consumers, but would increase their long-term risk of developing cancer. A second disinfection scenario would do the opposite: decrease the cancer risk, but potentially increase microbial infection risk. This is a typical trade-off of one risk for another (Putnam and Wiener, 1995). The optimal level of drinking water disinfection would lie somewhere between these two extremes, at the point where society indicates overall acceptance of the two types of risk, both independently of each other and in combination. This point would be identified through analysis of the responses to surveys that ask participants to evaluate the risk associated with both treatment plans.

Why would economists be interested in qualitative tools if they cannot be used to obtain the analytical values needed for an analysis? The reason is that the commodity that participants are asked to value must be accurately specified, and focus groups provide an ideal vehicle for ensuring that the correct issue is addressed. Repeated focus group sessions with stakeholder participants are also an opportunity to test the survey instrument to ensure that participants understand it well, which may improve overall response. The survey instrument must ask the right questions if the answers are to help the regulator achieve an efficient outcome. Focus groups allow researchers to gather a wide range of perspectives in a short

time and therefore to gain a complete picture of participants' thinking (Sutkus et al., 2008).

Similarly, this technique could be used to obtain insight into equity issues for the distributional analysis component of the economic evaluation, or it could identify potential social consequences.

## Conclusion

Qualitative analysis is commonly seen as an inferior alternative to quantitative work, performed only when data is lacking. But in small-scale situations, a qualitative analysis may be all that is warranted due to the usually high cost of conducting a full-scale quantitative study. Furthermore, a well-considered qualitative review of potential impacts may give decision makers enough evidence to judge a regulatory proposal. In larger-scale regulatory situations, qualitative information gathering can contribute to the development of survey instruments for assessing the values that society places on diverse scenarios. Additionally, qualitative analysis techniques can inform other aspects of the regulatory decision-making process outside of the economic analysis, such as identifying which control measures to consider in order to achieve desired results. 🌱

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## Policy Research Initiative

On March 13, 2008, the Policy Research Initiative (PRI), in collaboration with the Regulatory Affairs Sector of the Treasury Board Secretariat and Health Canada, held a conference in Ottawa on the role of benefit-cost analysis (BCA) in decision making. The event was well attended – over 140 people, representing 15 federal departments and agencies, participated.

The conference focused on discussing BCA best practices with the regulatory community. BCA is a tool that allows decision makers to weigh the probable gains and losses that would result from a proposed regulatory or policy action. The purpose of the conference was to give managers and officers from a variety of disciplines an overview of the ele-

of the US Office of Management and Budget's Office of Information and Regulatory Affairs. Dr. Graham endorsed BCA as a tool for effective decision making. He challenged what he described as common myths surrounding BCA, arguing that this tool is not biased against providing adequate regulatory protection. He also noted that BCAs may require qualitative analysis and that policy evaluations must also include an account of how the costs and benefits are distributed within society.

To introduce participants to the steps and elements involved in integrated assessment of a regulatory proposal, Barry Jessiman (Health Canada) and Paul De Civita (PRI) presented a case study on the Sulfur in Gasoline Regulations. Their objective was to show how the integration of use of the natural and social sciences can provide decision makers with a solid evidence base on which to make defensible decisions. They also demonstrated the approaches, steps, issues, and challenges of a BCA undertaken with science input. Thus, their address also served as a reference point for the five other presentations delivered that day.

Key to any policy or regulatory proposal are the trade-offs (advantages and disadvantages) that will arise after implementation. Richard Morgenstern from Resources for the Future spoke on alternative approaches (and challenges) to valuing the industry - and government-related costs associated with regulatory proposals.

ments and issues involved in planning and undertaking a science-based economic analysis for regulatory decision making.

The keynote speaker was John D. Graham, Dean of Pardee RAND Graduate School and former administrator

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## The Future of Strategic Evidence-Based Regulation: A Conference Summary

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Given that many of the benefits associated with public policy (e.g. improved health, enhanced environmental quality) are not traded in any market, prices and values are not readily available for BCA. Vic Adamowicz from the University of Alberta discussed the concepts and challenges associated with valuing health and environmental benefits. He spoke about approaches that used market data to infer values and survey techniques to elicit values directly from individuals. He also provided an overview of techniques to obtain values from existing policy analyses – an approach referred to as “benefits transfer.”

**Key to any policy or regulatory proposal are the trade-offs (advantages and disadvantages) that will arise after implementation.**

One of the most important benefits of public policy is the avoidance of premature mortality. While the scientific literature includes defensible methods to monetize the value of avoiding small changes in the risk of premature death, the approach is not universally understood or free of controversy. Laurie Chestnut of Stratus Consulting delivered a presentation on the concepts underlying the value of a statistical life and the recent results of a PRI review of the magnitude of this value for Canadian policy applications.

Costs and benefits may occur at different points during the life cycle of a regulation, making it difficult to ascertain whether the benefits outweigh the costs. Typically, the costs of a new

regulation are realized immediately after its implementation, while the benefits accrue later in its life cycle. To allow meaningful comparison, both the cost and benefit streams must be transformed into present or annualized values using appropriate discount rates. Anthony Boardman of the University of British Columbia presented an overview of the different discounting practices and outlined a

practical and flexible approach for federal departments to use.

The costs and benefits of a proposed initiative are important for decision makers to appreciate. If the benefits outweigh the costs, society is in a better position – i.e., Canadians in the aggregate are net winners. Another important consideration is to shed light on who are the winners and the losers. Distributional analyses are usually undertaken to provide this perspective. Sandra Hoffman from Resources for the Future outlined the concepts and tools available to address the issues, which may include regional impacts, competitiveness effects, plant closures and employment losses, trade impacts, etc.

The agenda, presentation slides, and abstracts of working papers from this conference are available on the PRI web site at <[www.policyresearch.gc.ca](http://www.policyresearch.gc.ca)>. Many of the presentations were also supported by working papers that

provide details not captured in the slides. Abstracts of the working papers may also be found at the same site.

For additional information, please contact Paul De Civita at PRI by telephone 613-943-2400 or by email <[p.decivita@prs-srp.gc.ca](mailto:p.decivita@prs-srp.gc.ca)>. ●



## **Will social media change the regulatory process?**

Communication with stakeholders is a vital component of a regulatory process, both for messaging to citizens and in receiving feedback for government. Historically, this has been accomplished through traditional approaches, including written submissions, documentation, or in-person information exchanges. But can the advent of social media be successfully integrated into the process, thereby developing a more collaborative approach to regulatory decision making?

New and emerging technologies may contribute to a change in how regulations are developed. Threaded discussions or forums could allow stakeholders to post, read, and exchange ideas about proposed regulation, with a department or agency representative participating in the discussion to provide explanations or information. Interactive proposals with links to pertinent documents, or even the use of podcasts to convey information, would provide greater transparency and efficiency for inter-

ested parties. Another such initiative is blogging, recently adopted by Dr. Peter Orszag, the new director of the Office of Management and Budget (OMB) in the United States. In recognizing that blogging is a common and convenient way for people to obtain the information they need, the OMB is an early government user of social media.

Another possible area that could take advantage of technological advancements is in international regulatory co-operation. For example, Canada, the United States, and Mexico could engage in a forum for NAFTA regulators that would facilitate on-line, instant collaboration on regulations/practices of common interest.

While these approaches are currently not widely used in mainstream government consultations and engagement, future research could focus on ways to identify a mechanism to facilitate their adoption.

## Les médias sociaux peuvent-ils modifier le processus de réglementation?

parties intéressées. Une initiative du genre, le blogage, a été récemment adoptée par le professeur Peter Orszag, le nouveau directeur du Office of Management and Budget (OMB) aux États-Unis. Constatant que le blogage est un moyen courant et propice à l'obtention de renseignements utiles, l'OMB a rapidement adopté l'utilisation des médias sociaux.

Un autre secteur qui pourrait profiter des progrès technologiques est la coopération internationale en matière de réglementation. Ainsi, le Canada, les États-Unis et le Mexique pourraient participer à une tribune destinée aux responsables de la réglementation de l'ALÉNA qui faciliterait la collaboration en ligne instantanée sur les règlements et les pratiques d'intérêt commun.

Bien que ces approches ne soient pas actuellement utilisées souvent pour les consultations et les missions gouvernementales courantes, la recherche pourrait se concentrer sur des façons de déterminer un mécanisme pour en faciliter l'adoption.

La communication avec les intervenants constitue un élément essentiel du processus de réglementation, autant pour la diffusion aux citoyens que pour les rétroactions formulées par le gouvernement. La communication s'est toujours effectuée par des approches traditionnelles, notamment par des observations écrites, de la documentation, ou par des échanges en personne. L'avènement des médias sociaux peut-il être intégré au processus avec succès, donnant lieu à une approche plus coopérative de la prise de décision en matière de réglementation?

Les technologies nouvelles et émergentes pourraient contribuer à modifier la façon dont les règlements sont élaborés. Les fils de discussion ou les groupes de discussions pourraient permettre aux intervenants d'afficher, de lire et d'échanger des idées sur les règlements proposés, alors qu'un représentant d'un ministère ou d'une agence participerait à la discussion pour fournir les renseignements ou les explications nécessaires. Des propositions interactives avec des liens à la documentation appropriée ou même l'utilisation de balados pour communiquer de l'information augmenteraient la transparence et l'efficacité des



d'un examen récent mené par le PRP quant à la portée de cette valeur au chapitre des politiques canadiennes.

compétitivité, les fermietures d'usines, les pertes d'emplois, les conséquences sur le commerce, etc.

L'ordre du jour, les diapositives des exposés et les résumés des documents de travail de cette conférence peuvent être téléchargés sur le site web du PRP <[www.recherchepolitique.gc.ca](http://www.recherchepolitique.gc.ca)>. La plupart des exposés étaient également accompagnés de documents de travail, plus complets que les diapositives. Pour plus de renseignements, veuillez contacter Paul De Civita, du Projet de recherche sur les politiques, au 613-943-2400 ou à <[p.decivita@prs-srp.gc.ca](mailto:p.decivita@prs-srp.gc.ca)>.

Les coûts et les avantages d'un règlement peuvent être constatés à différents moments au cours de son cycle de vie; au départ, on ne peut donc pas savoir avec certitude si les avantages justifient les coûts. En règle générale, les coûts peuvent être déterminés immédiatement après l'entrée en vigueur du règlement, tandis que les avantages sont constatés plus tard. Une comparaison rationnelle est toutefois possible : il suffit de convertir les coûts et avantages en valeurs actuelles ou amorties sur une base annuelle à l'aide des taux d'actualisation appropriés. M. Anthony Boardman, de l'Université de la Colombie-Britannique, a exposé différentes pratiques d'actualisation ainsi qu'une approche pratique et flexible que les ministères fédéraux pourraient utiliser.

Si les avantages l'emportent sur les coûts, la société s'en porte mieux; c'est à-dire les Canadiens, dans l'ensemble, sont nettement gagnants. Il importe également de déterminer les gagnants et les perdants, ce à quoi servent habituellement les analyses de répartition. À cet égard, Mme Sandra Hoffman, de Resources for the Future, a suggéré des données pouvant s'avérer pertinentes, notamment les répercussions sur les régions et la

industries que les gouvernements – d'un projet de règlement, ainsi que des efforts que cela suppose.

Puisque bon nombre des avantages liés à la politique publique (p. ex. favoriser une meilleure santé, améliorer la qualité de l'environnement) ne sont pas négociables sur les marchés, leur valeur et leurs coûts ne sont pas systématiquement disponibles aux fins des ACA. M. Vic Adamowicz de l'Université de l'Alberta a exposé les concepts et les défis associés à l'évaluation des avantages relatifs à la santé et à l'environnement. Il a parlé d'approches fondées sur des données commerciales qui permettent d'établir la valeur des avantages, ainsi que de techniques d'enquête grâce auxquelles il est possible d'évaluer l'importance après de la population directement. En outre, il a parlé du « transfert d'avantages », une technique permettant d'extraire des données d'analyses stratégiques existantes.

**La clé de tout projet de politique ou de réglementation réside dans les compromis (avantages et inconvénients) qui seront nécessaires après la mise en application.**

L'un des plus importants avantages de la politique publique est qu'elle permet de lutter contre la mortalité prématurée. Bien que la littérature scientifique expose des méthodes défendables pour monétiser la valeur des mesures visant à assurer un taux le plus faible possible de mortalité prématurée, la stratégie n'est pas comprise de tous ni sans susciter de controverse. Mme Laurie Chestnut, de Stratus Consulting, a fait une présentation sur les concepts inhérents à la valeur de la vie statistique ainsi que les résultats

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L'orateur principal, M. John D.



sommes en présence d'un cas classique d'échange d'un risque contre un autre (Putnam et Wiener, 1995). Le niveau optimal de désinfection de l'eau potable se situerait entre ces deux extrêmes, à un point où la société indique une acceptation globale des deux types de risque indépendante d'un de l'autre et en combinaison. Ce point d'acceptation serait mis en évidence par l'analyse des réponses des participants à des enquêtes leur demandant d'évaluer les risques associés aux deux possibilités de traitement.

Pourquoi les économistes s'intéresseraient-ils aux outils d'analyse qualitative s'ils ne permettent pas d'obtenir les valeurs nécessaires à leur analyse? La raison est qu'il faut définir avec précision le produit de base que l'on demande aux participants d'évaluer. À ce titre, les groupes de discussion constituent le moyen idéal de faire en sorte d'étudier l'enjeu approprié. La tenue de plusieurs réunions de groupe avec les parties prenantes constitue aussi une occasion de mettre à l'essai le matériel d'enquête utilisée et de s'assurer que les participants le comprennent bien, ce qui pourrait améliorer les réponses fournies. Le matériel d'enquête doit contenir les bonnes questions si l'on veut que les réponses données aident l'autorité de réglementation à obtenir de bons résultats. Les réunions de groupe permettent aux chercheurs de recueillir un large éventail de points de vue en un court laps de temps et, par conséquent, leur permettent d'élaborer un tableau d'ensemble de la réflexion des participants (Sutkus *et al.*, 2008).

En outre, cette technique pourrait servir à mieux comprendre les questions d'équité utiles pour l'analyse de la répartition menée dans le cadre de

## Références

- l'évaluation économique. Elle pourrait également mettre en lumière les conséquences sociales possibles.
- Conclusion**
- L'analyse qualitative est généralement perçue comme un moyen de rechange inférieur aux efforts d'analyse quantitative et qui est utilisé uniquement en l'absence de données. Néanmoins, pour les projets d'envergure modeste, l'analyse qualitative pourrait s'avérer suffisante en raison des coûts généralement élevés induits par une étude quantitative exhaustive. En outre, un examen bien conçu des répercussions possibles pourrait donner aux décideurs suffisamment d'éléments pour évaluer une proposition de règlement. Pour les projets de règlement de plus grande envergure, le regroupement d'information qualitative peut contribuer à l'élaboration de matériel d'enquête visant à mesurer la valeur accordée par la société à divers scénarios. De plus, les techniques d'analyse qualitative peuvent éclairer des éléments du processus décisionnel en matière de réglementation qui se distinguent de l'analyse économique, tels que la définition des mesures de contrôle envisageables afin de parvenir aux résultats visés.
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## Un exemple d'évaluation qualitative : la méthode du triple résultat

Comme son nom l'indique, la méthode du triple résultat (MTR) montre comment les politiques ou les activités d'une entreprise influencent trois types de résultats : 1) le résultat financier, qui représente la position comptable des entreprises en matière de flux de trésorerie interne; 2) le résultat social, qui illustre les conséquences externes sur les autres dans la société et qui englobe des notions telles que l'équité, les possibilités économiques ou la sécurité et 3) le résultat *environnemental*, qui révèle les effets produits sur les systèmes naturels tels que les voies navigables, la qualité de l'air ou les zones de pêche. L'intention est de mettre en évidence autant les répercussions internes (telles que les flux de trésorerie) que les répercussions externes (sociales et environnementales) d'un projet de politique ou d'activité.

La MTR a été conçue dans le cadre du développement durable (Elkington, 1997). Elle peut aussi être appliquée sous la forme d'une analyse coûts-avantages. Un de ses avantages est qu'elle permet l'utilisation de données qualitatives et/ou quantitatives et qu'on peut l'utiliser de manière à exprimer les résultats probables de différentes possibilités d'action à l'intention des décideurs et des parties prenantes (Raucher et Garvey, 2007).

La MTR peut être appliquée de manière strictement qualitative. On obtient alors un cadre d'organisation à partir duquel un analyste peut catégoriser et décrire les avantages et les coûts liés à une proposition de règlement. Une évaluation qualitative effectuée avec la MTR peut en outre être étendue pour faire apparaître l'ampleur ou l'importance relative prévisible de chaque coût ou avantage (faible, modéré ou élevé). De plus, les données quantitatives disponibles peuvent être incluses au rapport de MTR. L'objectif est de s'assurer que l'en-semble des conséquences importantes d'un projet de règlement sont portées à l'attention des décideurs politiques de manière systématique, organisée et approfondie.

## Utilisation conjointe de l'analyse quantitative et qualitative

Dans la pratique, il est rare que les analyses de réglementation reposent exclusivement sur de l'information qualitative ou quantitative, car un mélange des deux est souvent nécessaire. Par exemple, les évaluations qualitatives (comme celles utilisées dans les groupes de discussion)

peuvent jouer un rôle essentiel dans la production d'estimations quantitatives (plus de détails ci-dessous).

En outre, même quand il est possible de traduire de nombreuses répercussions d'une proposition de règlement de manière quantitative et pécuniaire, une analyse coûts-avantages révèle souvent des avantages (ou des coûts) notables que des données chiffrées ne sauraient exprimer avec aisance et fiabilité. Dans ce cas, l'analyste doit attirer l'attention

des décideurs sur l'existence de ces importants résultats non pécuniaires et leur dire de les prendre en considération en même temps que les résultats quantifiables. La méthode du triple résultat constitue une façon de recueillir et de transmettre de telles données (voir texte encadré).

## L'analyse qualitative dans le contexte de l'évaluation économique

L'économie est une science qui étudie les préférences sociales et les exprime sous forme d'unités monétaires à des fins de comparaison. Néanmoins, avant de pouvoir appliquer des valeurs pécuniaires à des avantages éventuels par rapport aux dépenses, il est nécessaire d'obtenir de nombreuses ressources autant numériques que conceptuelles. Cette extrapolation n'est pas réalisable quand l'information provient de petits groupes d'individus. La raison est que les discussions menées auprès de ces petits groupes ne sont pas généralisables à l'ensemble de la population, étant donné qu'ils ne sont pas suffisamment représentatifs ou que la taille de l'échantillon est insuffisante. Par ailleurs, dans une évaluation économique coûts avantages de moyenne ou de grande envergure, les techniques d'analyse qualitative jouent presque toujours un rôle dans l'obtention de valeurs

Prenons le cas d'une proposition de règlement sur la désinfection de l'eau potable pour laquelle un des scénarios de traitement réduirait le risque d'infection microbienne pour les usagers tout en augmentant le risque de contracter un cancer dans le long terme. Un deuxième scénario de désinfection produirait l'effet inverse : diminuer les risques de cancer, mais augmenter l'éventualité d'infections microbiennes. Nous



Figure 1  
Échelle de quantification



Source : D'après Bergstrom et De Civia (1999).

L'évaluation économique des avantages, des coûts et des problèmes de répartition. Si une autorité de réglementation croit qu'un projet ne coûtera pas grand chose et même rien du tout aux parties prenantes mais que, au contraire, il produira des avantages, une affirmation voulant que les avantages nets prévus seront positifs pourrait suffire. Considérons, par exemple, une modification des normes de production visant à tenir compte des processus technologiques actuels utilisés dans l'industrie. L'objectif de cette modification serait de réduire les risques pour la santé humaine en écartant du marché les entreprises qui ne respectent pas des normes de qualité rigoureuses. Les coûts engagés seraient négligeables, mais un des avantages possibles serait le renforcement de la confiance du public envers les produits de consommation. Même s'il est difficile de faire une mesure chiffrée, le bilan d'un tel règlement serait vraisemblablement positif.

### Obtention de données qualitatives

Quand un analyste détermine qu'une étude doit être menée de manière qualitative « analyse qualitative » prend une forme « analyse qualitative » prend une

signification différente. Plutôt que d'effectuer une analyse à partir de données insuffisantes ou indisponibles, un chercheur qui entreprend une véritable analyse qualitative aura préalablement cerné un besoin particulier nécessitant une appréciation des processus et des significations plutôt qu'une évaluation des quantités, des montants ou des fréquences (Labuschagne, 2003). Pour parvenir à cette fin, l'analyste regroupe les données à l'aide de techniques telles que l'étude d'observation, l'entrevue approfondie et la réunion de groupe. Toutes ces méthodes demandent à l'analyste d'interagir avec de petits groupes de participants, de manière directe ou indirecte. La collecte et l'analyse de données prennent du temps et coûtent cher mais, quand elles sont effectuées correctement, elles constituent [Traduction] « une source de description des processus riche et bien fondée, dans des contextes localisés et reconnaissables » (Miles et Huberman, 1994).

bles qu'entraîne un transfert des avantages par rapport à un sondage préliminaire, explique pourquoi il s'agit d'une méthode communément admise pour obtenir des données exploitables à des fins d'étude.

## Évaluation qualitative de la réglementation

On utilise couramment le terme « étude qualitative » pour désigner l'ensemble des processus analytiques faisant appel à des techniques non mathématiques ou adaptées au scénario en question. Cette enquête permettrait de définir les préférences des parties naires au sujet de diverses circonstances liées au règlement suggéré et d'évaluer leur consentement à faire des compromis afin d'obtenir les meilleurs résultats possibles. Néanmoins, comme les enquêtes préliminaires coûtent cher en temps et en argent, elles sont généralement justifiées quand il s'agit de projets de réglementation de grande envergure.

Une autre source possible de données consiste dans le transfert des avantages, par lequel les estimations de la valeur non marchande tirées d'une étude élaborée dans un contexte différent sont transférées au contexte de la réglementation (Bateman *et al.*, 2000). Cette méthode produit généralement des données fiables et défendables pour mener des analyses quantitatives quand on applique un protocole transparent pour en déterminer la pertinence, tel que l'Environmental Valuation Reference Inventory<sup>MC</sup> (base de données mise en œuvre par l'Environnement Canada en 1998). La crédibilité des données obtenues, de même que les coûts beaucoup plus faibles qu'une étude qualitative des avantages, ce qui indique que le règlement suggéré pourrait profiter à la société.

## Obtention de données quantitatives

Les données idéales dans le cadre d'une analyse quantitative des avantages découlent d'un travail de recherche préliminaire pouvant prendre la forme d'une enquête menée auprès des partenaires et adaptée au scénario en question. Cette enquête permettrait de définir les préférences des parties naires au sujet de diverses circonstances liées au règlement suggéré et d'évaluer leur consentement à faire des compromis afin d'obtenir les meilleurs résultats possibles. Néanmoins, comme les enquêtes préliminaires coûtent cher en temps et en argent, elles sont généralement justifiées quand il s'agit de projets de réglementation de grande envergure.

**Bien qu'une étude qualitative n'ait pas toujours la même portée qu'une analyse quantitative, cela ne signifie pas pour autant qu'elle manque de rigueur analytique.**

d'application d'un règlement. Dans le domaine de l'industrie, les dépenses engagées prennent souvent la forme d'une augmentation des investissements de conformité, tels que le coût d'acquisition d'une nouvelle technologie ou d'adoption d'un nouvel intrant dans le processus de production. Puisque le nouvel équipement ou le nouveau matériel est acheté au prix du marché, il est facile de comparer la valeur pécuniaire de la dépense engagée. Par exemple, un règlement visant à maîtriser la pollution pourrait nécessiter l'installation de brosseuses incombent à l'entreposage et ces frais représentent le coût de conformité réglementaire qu'elle doit payer.

Par contre, il n'est pas toujours simple d'observer, d'estimer ni de comparer la valeur des avantages obtenus. En effet, les avantages d'un règlement tels que l'amélioration de la santé humaine ou l'assainissement de l'environnement n'ont pas de valeur commerciale. Par conséquent, on ne peut pas facilement leur donner une valeur pécuniaire. Les techniques permettant de révéler la valeur accordée par la société à cette catégorie d'avantages consistent à étudier les préférences des individus ainsi que les compromis qu'ils sont prêts à faire. Si ces compromis sont calculés en dollars, alors cette mesure monétisée peut être comparée à des coûts de marché. Si les avantages sont supérieurs aux dépenses engagées, le règlement est efficace sur le



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# Analyse qualitative et quantitative dans le cadre d'évaluations économiques à l'appui du processus décisionnel

## Introduction

À haute direction a besoin de renseignements précis et cohérents pour prendre des décisions, qu'elles soient de nature réglementaire ou non. Un outil clé utilisé par l'analyste ministériel pour obtenir ces renseignements est l'étude d'impact de la réglementation (EIR), qui doit être préparée pour tout projet de règlement. L'EIR, qui donne le contexte et la justification de l'initiative suggérée, nécessite une analyse coûts-avantages pour déterminer si la réglementation proposée représente le meilleur choix pour le Canada. Un troisième élément économique, l'analyse de la répartition, s'ajoute au tableau et sert à déterminer les répercussions possibles sur des régions ou groupes particuliers au Canada. Bien qu'elle ne soit pas obligatoire, l'analyse de la répartition aide à

évaluer si le règlement proposé est un moyen équitable d'atteindre les objectifs du règlement proposé.

Même si la Directive du Cabinet sur la rationalisation de la réglementation (appliquée par le gouvernement fédéral en 2007) indique que les économistes et analystes en réglementation doivent exprimer les avantages et les coûts de manière quantitative le plus souvent possible, de nombreuses situations ne se prêtent pas à une analyse numérique. Bien souvent, l'insuffisance de données ne permet pas de faire une évaluation quantitative. Dans d'autres cas, l'importance de l'initiative et ses répercussions possibles sont tellement minimes qu'une analyse quantitative complète n'est pas justifiée. Dans ces cas, une évaluation qualitative des coûts et des avantages constitue un choix judicieux.

Les caractéristiques d'une véritable analyse qualitative présentent des différences avec les principes d'analyse quantitative, de sorte que l'analyste doit aborder les deux méthodes de manière distincte. Nous présentons ici certaines de ces différences en insistant en particulier sur la collecte des données et l'applicabilité des techniques d'analyse qualitative à l'analyse des réglementations. Tout d'abord, nous allons décrire le domaine généralement bien connu de l'analyse quantitative des coûts et des avantages. Dans un deuxième temps, nous indiquerons les principaux éléments qui définissent une étude qualitative. En conclusion, nous montrerons comment une analyse qualitative peut compléter une analyse quantitative.

## L'analyse quantitative des coûts et des avantages

Un règlement s'accompagne de l'exercice d'une certaine influence sur des parties privées en vue de limiter ou de modifier un comportement, par exemple en établissant des normes ou en appliquant une interdiction. Étant donné que leurs activités ordinaires sont touchées, les parties concernées doivent payer le coût

- (Arrow *et al.*, 1996). Une approche structurée et quantitative de l'analyse des politiques est l'une des façons peu nombreuses d'examiner d'une manière relativement transparente les possibilités d'action. Et qui plus est, l'intégration des instruments reposant sur les mécanismes du marché dans l'élaboration des politiques environnementales pourrait permettre d'obtenir un environnement plus sain sans compromettre le rendement économique. Cela dit, les choix que nous ferons entre les approches réglementaires et les possibilités d'action dépendront de notre capacité à évaluer ces options. En améliorant la capacité d'analyse économique des organismes et la communication entre les responsables de la recherche sur les politiques et les organismes de réglementation, nous serons en meilleure position pour faire ces choix. ●
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## Références



Les questions touchant les politiques environnementales sont de plus en plus complexes. Plus particulièrement, les questions relatives à l'environnement, à la santé et à la sécurité prennent une dimension multidisciplinaire et sont souvent marquées par des incertitudes

Le développement de la capacité pour l'analyse de la répartition, l'évaluation et l'analyse de la répartition. Les chercheurs à s'attaquer aux questions difficiles, comme l'actualisation, l'évaluation et l'analyse de la répartition.

La mise en place d'un organisme ayant un grand rôle de supervision, ou une « fonction d'examen critique » (Jacobs and Associates, 2006a), comme l'Office of Information and Regulatory Affairs des États-Unis, pourrait aider à corriger les faiblesses apparentes dans l'analyse des politiques et l'évaluation de la réglementation au Canada. Un tel organisme pourrait contribuer à accroître la capacité et les économies d'échelle en matière d'analyse des politiques. Il contribuerait également à créer une demande pour des capacités d'analyse accrues dans d'autres secteurs (ONG, industrie, organismes provinciaux) et inciterait probablement les chercheurs à s'attaquer aux questions difficiles, comme l'actualisation, l'évaluation et l'analyse de la répartition.

Nous pouvons faire une partie du chemin en élaborant un meilleur cadre institutionnel pour l'analyse des politiques. Ce cadre nécessiterait des lignes directrices rigoureuses en matière d'analyse des politiques, ainsi qu'un système

Différents rapports laissent entendre que le Canada accuse un certain retard dans l'utilisation de l'étude d'impact de la réglementation et la mise en œuvre d'instruments reposant sur les mécanismes du marché dans l'élaboration des politiques environnementales. Si c'est vrai, comment peut-on rattraper ce retard?

### La voie de l'avenir – intégration de l'analyse économique et de la politique environnementale au Canada

La « marchandisation » des biens et des services environnementaux comme l'eau, de même que la crainte que les approches reposant sur les mécanismes du marché puissent réduire la compétitivité de notre industrie. Certains auteurs ont toutefois laissé entendre que la principale raison de la lenteur du Canada à adopter des instruments reposant sur les mécanismes du marché tenait à un manque de capacité des organismes de réglementation (Renzetti, 2005; Horbulyk, 2005). Les problèmes de capacité associés à la multiplicité des organismes et des compétences sont similaires pour les instruments reposant sur les mécanismes du marché et pour l'analyse de la réglementation. Ce ne sont pas tous les enjeux de politique environnementale qui peuvent ou doivent être traités au moyen des instruments reposant sur les mécanismes du marché. Cependant, la capacité d'analyse est nécessaire pour déterminer à quelles conditions et à quel moment les instruments reposant sur les mécanismes du marché sont bénéfiques.

En plus de ces mesures, d'autres programmes reposant sur les mécanismes du marché font l'objet d'études et d'évaluations dans l'ensemble du Canada (<www.sustainability.ca>).

Bien que de nouvelles initiatives stimulantes aient fait leur apparition, le Canada reste loin de la vague de politiques environnementales incitatives qui semble déferler sur le monde. Ceci vient peut-être en partie du manque de familiarité de nos institutions avec de telles approches – l'élaboration des politiques comporte un élément d'apprentissage « pratique » (Adamowicz, 2007). Il existe également des préoccupations relatives à

- les pays de l'OCDE en 2004 : [traduction] « les instruments reposant sur les mécanismes du marché ne sont pas suffisamment utilisés pour favoriser l'intégration des préoccupations environnementales dans les politiques sectorielles; on attache trop d'importance aux instruments « doux », comme les lignes directrices facultatives ou les partenariats » (OECD, 2004; p. 97).
- Cependant, depuis la publication de ce rapport, plusieurs initiatives reposant sur les mécanismes du marché ont été mises en œuvre au Canada, notamment :
  - droits relatifs à l'eau négociables en Alberta (Nicol et Klein, 2006);
  - taxe sur le carbone en Colombie-Britannique;
  - droits d'émission ou compensation des émissions de carbone pour les entreprises qui dépassent leurs cibles d'intensité en Alberta (<www.carbonoffsetsolutions.ca>);
  - plus grande utilisation des mesures incitatives pour les pratiques de gestion bénéfiques afin de réduire la pollution de l'eau par l'agriculture (<www.al.gov.bc.ca/apf/env.html#bmp>).

exigences de présentation appropriées. Le Canada pourrait se prévaloir de l'expérience des États-Unis, où un organisme unique — l'Office of Information and Regulatory Affairs — détient seul la responsabilité de la supervision et du contrôle de la qualité de l'analyse d'un large éventail de règlements. Bien que cette approche suscite certaines préoccupations portant notamment sur une trop grande rigidité et une trop grande centralisation et sur le fait que des influences politiques puissent nuire à l'analyse de la

réglementation, une telle approche offre des économes d'échelle et génère des méthodes d'analyse relativement normalisées.

Un autre avantage souvent oublié de la centralisation de l'analyse tient à la rétroaction entre les analystes et la communauté scientifique. Dans le cas présent, les relations à long terme favorisées par l'existence d'un organisme centralisé peuvent contribuer à faire en sorte que les chercheurs s'attaquent aux problèmes les plus pertinents.

## L'amélioration de la capacité d'analyse économique des organismes et des communications entre la communauté de la recherche en matière de politiques et les organismes de réglementation nous placera en meilleure position pour faire ces choix.

Un autre défi pour le Canada vient de sa capacité limitée et fragmentée de mener des analyses rigoureuses. Howlett (2007) allègue que si la capacité d'analyse des organismes fédéraux a été raisonnablement bien préservée, il est peu probable qu'elle puisse évoluer au même rythme que la complexité des questions stratégiques (changement climatique, champs électromagnétiques, ressources en eau, etc.). La capacité des autres organismes, notamment les gouvernements provinciaux et les organisations non gouvernementales (ONG), semble avoir connu

une baisse significative (Howlett, 2007; Howlett et Lindquist, 2007). Ces organismes sont souvent en première ligne sur un grand nombre d'enjeux comme la gestion des ressources naturelles, l'utilisation de l'air et de l'eau. Pour mettre fin à la diminution des capacités analytiques, Howlett et Lindquist (2007) expliquent comment les analystes des politiques pourraient être mieux formés. Ils suggèrent de développer le cursus des écoles d'administration publique de manière à ce qu'il s'étende au-delà des compétences d'analyse générales. Enfin, la comparaison internationale effectuée par Jacobs and Associates (2006a, 2006b) illustre l'absence actuelle de caractéristiques institutionnelles qui pourraient permettre de développer la capacité d'analyse, comme la révision par les pairs, les documents d'orientation et les processus de contrôle de la qualité.

## L'utilisation des instruments reposant sur les mécanismes du marché dans la politique environnementale

Tout comme il a été déterminé que l'étude d'impact de la réglementation pouvait être une façon d'améliorer l'application des ressources, l'utilisation des instruments reposant sur les mécanismes du marché est perçue comme une façon de diminuer le coût de la réalisation des objectifs environnementaux ou de fournir des incitations à l'amélioration de la qualité de l'environnement et au développement des technologies

environnementales. Plusieurs méca-

nismes ont été mis en place dans le but de diminuer l'effet des coûts externes et d'harmoniser les objectifs environnementaux avec le système économique (Stavins, 2001).

Il y a eu peu d'analyses systématiques sur l'utilisation des instruments reposant sur les mécanismes du marché dans le domaine des politiques environnementales dans le monde, mais les données empiriques laissent voir une tendance largement répandue en faveur de l'adoption de politiques environnementales fondées sur des incitations. Les États-Unis disposent d'une large gamme de programmes incitatifs, par exemple les permis d'émission négociables, les droits d'usage de l'eau transférables et les droits de développement et d'utilisation des terres pouvant être négociés (voir Stavins, 2001). L'Europe traite la question du changement climatique au moyen d'un régime de plafonnement et d'échange (ou de permis d'émission négociables) pour le bioxyde de carbone (Ellerman et Buchner, 2007). Pour répondre à la pénurie d'eau, l'Australie conjugue les permis d'eau négociables avec la tarification (Young et McColl, 2003) et expérimente des approches reposant sur les mécanismes du marché pour la gestion du carbone et la prestation de biens et de services environnementaux (Stoneham *et al.*, 2003). Les instruments reposant sur les mécanismes du marché ne conviennent pas dans tous les cas (voir, par exemple, Pannell (2008) pour une analyse du choix de l'instrument dans le contexte de l'utilisation des terres), mais il y a un intérêt croissant pour la recherche de nouvelles façons d'offrir des incitatifs à l'amélioration de l'environnement.

Le Canada a-t-il augmenté son utilisation des instruments reposant sur les mécanismes du marché? Non, selon une



devrait être incorporée à l'analyse et non invoquée pour justifier l'abandon de l'approche.

L'analyse coûts-avantages pose également un certain nombre de défis techniques. Le choix du taux d'actualisation, par exemple, soulève presque toujours une vive controverse. Le dernier numéro de *Stern Review* (Stern, 2006) sur les aspects économiques du changement climatique illustre bien cette question. Les critiques du rapport ont insisté sur le fait qu'on avait choisi un taux d'actualisation social relativement peu élevé (p. ex. Weitzman, 2007). Enfin, le coût de l'analyse de la réglementation est lui-même un enjeu. Chaque année, les organismes gouvernementaux proposent une profusion de règles et de règlements. Une analyse en profondeur de chacun d'eux aurait probablement un coût prohibitif. Un étalement de la portée de l'évaluation pourrait permettre de recenser les éléments qui méritent une évaluation en profondeur.

Aucune de ces limites n'est insurmontable, si l'on choisit les bons outils d'analyse des politiques. Pourquoi alors le Canada prend-il du retard sur les autres pays de l'OCDE dans l'analyse de la réglementation?

La réponse se trouve dans notre cadre institutionnel. Le contexte canadien de l'analyse de la réglementation est plutôt hétérogène en termes de documents d'orientation, d'exemples, de capacités et de méthodes d'examen et de contrôle de la qualité. Les lignes directrices fournies par le Secrétaire du Conseil du Trésor (Canada, Secrétaire du Conseil du Trésor, 2007) sont utiles comme guide général mais ne fournissent pas un cadre suffisant ou des mesures incitatives suffisantes pour choisir la technique d'analyse, les méthodes de mesure, les lignes directrices d'examen par les pairs ou les

difficultés sur le plan de l'analyse ou des données devraient également être perçues comme un indice de la nécessité d'investir dans la recherche.

Une troisième préoccupation tient à la difficulté de mesurer les avantages correspondants aux risques pour la santé, au déclin environnemental et aux autres éléments auxquels il est difficile d'attribuer une valeur (Ackerman, 2008). Examinons par exemple les politiques sur les espèces menacées ou en voie de disparition. En vertu de la *Loi sur les espèces en péril* du Canada, les coûts et les avantages socioéconomiques de l'inscription et de la planification du rétablissement d'une espèce particulière doivent être pris en compte. Mais il survient souvent des incertitudes au moment de mesurer les effets d'un plan de rétablissement ou des mesures qui l'accompagnent. De plus, les avantages économiques du rétablissement des espèces menacées sont habituellement des *valeurs d'utilisation passive*, et donc difficiles à quantifier en raison de l'absence d'une piste comportementale reliant le rétablissement d'une espèce à des activités économiques ou à des marchés (Adamowicz, 2004). Bien que ce soit la des préoccupations légitimes, le domaine de l'évaluation environnementale a connu des avancées importantes au cours des deux dernières décennies, notamment sur la question de l'évaluation des risques pour la santé. L'incertitude concernant les mesures de valeur

Quels sont donc les inconvénients de l'évaluation quantitative de la réglementation? D'un point de vue conceptuel, il existe un certain nombre de préoc-

cupations. Une cause fréquente de malaise est que le processus n'est pas « démocratique », puisque l'analyse coûts-avantages repose sur des évaluations monétaires plutôt que sur un processus électoral ou politique (Ackerman, 2008). Il y a deux réponses à cette critique. Dans un premier temps, l'analyse coûts-avantages peut en fait être plus inclusive que les processus politiques, parce qu'elle tente de recenser les effets sur tous les membres de la société plutôt que sur les seuls groupes d'intérêt, ou « intervenants ». Dans un deuxième temps, l'étude d'impact de la réglementation comprend souvent des évaluations de la réparation et/ou une évaluation des objectifs allant au-delà de la simple efficacité économique (Vining et Boardman, 2007).

## en général.

**Bien que contro-**  
**versée, la notion à**  
**retenir de cet argu-**  
**ment tient au fait**  
**qu'une présentation**  
**formelle et structurée**  
**des coûts et des avan-**  
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**tion des politiques**  
**ainsi qu'au public**

montre que les avantages nets de la réglementation fédérale ont augmenté d'environ 50 milliards de dollars américains entre 1993 et 2001 à environ 150 milliards de dollars entre 2001 et 2006. Cette amélioration de l'efficacité dans l'élaboration des politiques illustre le pouvoir de l'analyse de la réglementation.

Sunstein (2002) va aussi au-delà des arguments économiques « types » pour justifier une analyse rigoureuse des coûts et des avantages et des effets de la réglementation, notamment en ce qui concerne les politiques touchant l'environnement et la santé. Il fait valoir que l'analyse formelle contribue à atténuer un ensemble d'éléments « heuristiques » habituellement utilisés dans l'élaboration des décisions. Ces éléments heuristiques comprennent la notion de disponibilité (par exemple, surestimer un risque ressenti ou « rendu disponible » récemment) et la négligence des probabilités (accorder une importance insuffisante à la probabilité d'un événement et mettre l'accent sur les conséquences si cet événement survient) et d'autres éléments tels que le scandale et la myopie. Il est intéressant de remarquer que Sunstein prend que le principal élément en faveur de l'analyse coûts-avantages ne tient pas aux arguments économiques en faveur de son utilisation mais plutôt à l'aspect comportemental de la prise de décision, autrement dit à la notion selon laquelle l'utilisation des éléments heuristiques par des individus se traduit par l'utilisation de ces éléments par les décideurs, et donc par de mauvaises décisions d'orientation. Bien que controversée, la notion à retenir de cet argument vient au fait qu'une présentation formelle et structurée des coûts et des avantages peut être utile parce qu'elle fournit de l'information au processus d'élaboration des politiques ainsi qu'au public en général.

Par exemple, quelle est la situation du Canada en matière d'analyse économique des politiques environnementales? En 2004, un rapport de l'OCDE a conclu que l'analyse coûts-avantages était rarement utilisée dans les décisions portant sur les politiques environnementales au Canada (OECD, 2004). Plusieurs analystes, tant au Canada qu'à l'étranger, ont déploré cette absence d'analyse de la réglementation en matière de politiques environnementales (Adamowicz, 2007). Mais ces préoccupations sont-elles justifiées? L'analyse de la réglementation est-elle bonne pour la société?

Un examen de la littérature révèle les avantages que présente l'utilisation de l'analyse quantitative de la réglementation ; notamment :

- choix d'options réglementaires permettant une meilleure affectation des ressources;
- évaluation formelle des coûts et des avantages des possibilités d'action, ce qui permet une meilleure compréhension des impacts et fournit une indication des points d'incertitude les plus importants concernant ces impacts;
- plus grande transparence dans la prise de décision - en particulier lorsque l'option retenue n'est pas la plus efficace ou lorsqu'on croit que les coûts excèdent les avantages;
- imputabilité accrue des organismes gouvernementaux;
- capacité accrue des organismes en ce qui a trait aux effets des politiques.

Par exemple, Sunstein (2002) fait état de l'analyse de la réglementation effectuée par l'Office of Management and Budget des États-Unis, où les avantages des réglementations adoptées surpassent de beaucoup les coûts. Graham (2007)

disent de l'analyse de la réglementation qu'elle est devenue « la norme de gouvernance démocratique dans les pays industrialisés modernes » (2006b, p. 8). Le recours à l'analyse de la réglementation est relativement inégal d'un pays à l'autre. Depuis 1981, plus de 20 000 réglementations ont fait l'objet d'une analyse de la réglementation sous une forme ou une autre aux États-Unis, et plus de mille de ces analyses incluaient une analyse coûts-avantages complète (Jacobs and Associates, 2006b). Un grand nombre de ces dossiers comprennent un examen des modifications réglementaires touchant l'environnement, la santé et la sécurité (Graham, 2007).

## L'étude d'impact de la réglementation au Canada

Comment le Canada se compare-t-il aux autres pays de l'OCDE en ce qui a trait au volume et à la qualité des analyses de la réglementation? Malheureusement, les données documentaires ne sont pas très encourageantes à cet égard. Premièrement, nous devons souligner que le Canada « requiert » actuellement une analyse coûts-avantages des modifications réglementaires (Canada, Bureau du Conseil privé, 1999). De plus, plusieurs organismes fédéraux et provinciaux mentionnent la nécessité d'évaluer les avantages et les coûts des possibilités d'action et des solutions de rechange en matière de réglementation. Cependant, Vining et Boardman (2007) indiquent que les décideurs canadiens conçoivent l'analyse quantitative des politiques comme étant difficile et donc l'utilisent rarement. De même, Jacobs and Associates (2006b) rapportent que le Canada est passé de chef de file mondial en analyse de la réglementation à un pays qui accuse un certain retard par rapport à plusieurs autres pays de l'OCDE.



**A**u cours de la dernière décennie, nous avons assisté à une hausse spectaculaire de l'usage de l'analyse quantitative des politiques et de l'étude d'impact de la réglementation à l'échelle mondiale, en bonne partie dans les domaines de la santé, de l'environnement et de la sécurité. Si l'intérêt envers l'analyse quantitative des effets de la réglementation a été inégal au fil des décennies, il semble y avoir un regain d'intérêt pour l'évaluation quantitative des politiques environnementales (voir les examens de la littérature dans Howlett et Lindquist, 2004; Jacobs and Associates, 2006a, 2006b; Graham, 2007). Quelle est la source de ce nouvel intérêt pour l'analyse quantitative? Quels sont les avantages et les limites de cette approche, notamment pour ce qui a trait

# L'analyse économique des politiques et les instruments reposant sur les mécanismes du marché

à l'analyse des politiques environnementales? Le Canada est-il à la hauteur des autres pays? Une autre tendance mondiale est la hausse de l'utilisation des instruments reposant sur les mécanismes du marché

— ou l'incorporation de mesures incitatives dans les politiques en matière d'environnement ou de ressources naturelles. Ces approches de la politique environnementale sont censées réduire le coût de la réalisation des objectifs stratégiques ou favoriser les améliorations technologiques associées à la qualité de l'environnement. Qu'a fait le Canada à cet égard? Nous répondrons à ces questions en examinant le rapport entre l'analyse économique et les politiques environnementales, et en regardant dans quelle mesure une nouvelle synergie se développe entre ces deux domaines. Nous examinerons également la justification du lien entre les politiques environnementales et l'analyse économique et nous évaluerons les progrès du Canada dans ce domaine.

## L'analyse de la réglementation en gestion des affaires publiques

L'étude d'impact de la réglementation, y compris l'analyse coûts-avantages et l'analyse quantitative des politiques, sert à analyser le volume et la répartition des avantages et des coûts résultant des modifications réglementaires proposées. Cette approche peut être appliquée aux options de réglementation et aux investissements dans les infrastructures. C'est l'une des variantes de l'analyse coûts-

Des rapports publiés récemment par l'Organisation de coopération et de développement économiques (OCDE) (2007) et Jacobs and Associates (2006a) soulignent la très forte progression de l'analyse de la réglementation dans le monde. Le nombre de pays membres de l'OCDE exigeant des analyses de réglementation est passé de zéro à 10 entre 1974 et 1994 et de 10 à 26 entre 1994 et 2005. Jacobs and Associates

## Compte rendu de livre

### Le capitalisme réglementé

*Auteur : John Braithwaite*

Les sociétés contemporaines ont des marchés plus vivants que les anciennes. Par contre, ces marchés sont plus abondamment régis par des organes de réglementation, tant privés que publics. Ce livre explore les caractéristiques d'un capitalisme assujéti à la réglementation, ses tendances à surgir de façon cyclique en cas de crises, son ritualisme et sa gouvernance par le biais des réseaux. Le livre présente des nouvelles façons d'entrevoir les défis qui en découlent sur le plan des politiques.

1970 par un capitalisme de réglementation. Le livre allègue qu'il en est résulté des marchés, une réglementation publique et privée et des règlements hybrides plus forts mais aussi de nouveaux défis, notamment le caractère plus cyclique des crises du marché et de l'échec de la gouvernance, le ritualisme de la réglementation et des marchés en défaut. Toutefois, le capitalisme de réglementation donne aussi lieu à des occasions de mieux repenser les marchés en hausse, comme les marchés qui s'améliorent constamment, la privatisation du renforcement des règlements, des modèles d'affaires ouverts, des pyramides de réglementation dont l'escalation est réseautée et la métagouvernance en matière de justice.

problèmes en dehors du secteur public. La plupart des analyses coûts-avantages sont effectuées par des cabinets d'experts conseils dotés de professionnels. Or, ces cabinets sont, la plupart du temps, engagés par des entités qui ont un intérêt dans le résultat de l'analyse. Dans presque tous les cas, l'entité qui paie la facture veut que le projet soit approuvé, d'où l'investigation à exagérer les avantages et à sous estimer les coûts. Des entreprises charlatanes n'hésitent d'ailleurs pas à inventer des avantages, tant qu'ils sont plausibles. Cependant, même des entités qui sont très professionnelles et qui se respectent sont en proie à la ration subtile découlant du fait qu'elles connaissent un résultat donné que le client voudrait obtenir. Ainsi, lorsque le coût estimé du carburant devrait raison-

nablement rendre à la hausse, ces entités pourraient se contenter d'utiliser le prix récent comme l'estimation type pour toute la durée du projet. D'autre part, elles pourraient aussi ne pas faire de provision pour l'augmentation prévue des salaires réels, ni considérer l'apparence possible des solutions de rechange à plus faible coût à l'avenir. D'autres entités se penchent seulement sur la partie inférieure de l'éventail possible des prix des intrants du projet. La tendance à introduire ce type de biais subtil dans l'analyse est malheureusement humaine et il est très difficile de l'éviter ou de la prévenir.

dans la divulgation le plus rapidement possible de toutes (ou presque toutes) les évaluations des projets du secteur public, ce qui nous donne ainsi la possibilité non seulement de démasquer et discréditer des entreprises charlatanes, mais aussi, ce qui est peut-être encore plus important, de motiver tous les professionnels qui prennent part à l'analyse coûts-avantages pour qu'ils résistent aux tentations subtiles menant à des résultats biaisés. Le dicton selon lequel le bien le plus précieux d'une personne est sa bonne réputation s'applique également au monde de l'analyse coûts-avantages. Développer ce genre d'éthique, tout en faisant avancer la science et la méthodologie de l'analyse coûts-avantages, est la voie que nous devons suivre.



et l'amélioration de la qualité de leur nutrition et de leur logement. Des exemples en faveur du cadre des besoins fondamentaux proviennent de la pratique

des gouvernements dans

le monde entier. Il est probable qu'aucune politique sociale n'est aussi largement acceptée que l'idée d'une éducation primaire universelle et gratuite. Tous les gouvernements, sauf les plus pauvres, ont des politiques visant à fournir des soins médicaux gratuits ou subventionnés à ceux qui ne peuvent pas se le permettre. Des subventions à l'alimentation et au logement pour les pauvres sont aussi largement acceptées. Ce que

ces politiques ont en commun c'est l'utilisation des fonds publics pour fournir des subventions « en nature » et non « en espèces » qui permettent de satisfaire aux besoins fondamentaux de la population. Du point de vue de l'analyse coûts-avantages, la grande valeur d'un cadre des besoins fondamentaux repose sur la possibilité de le normaliser et de l'intégrer dans notre structure d'analyse, sans les conséquences lourdes et indésirables comme celles de la répartition de pondé-

ration.

Dans un système des besoins fondamentaux, les décideurs établiraient des barèmes d'attribution des primes lorsque des besoins fondamentaux sont satisfaits. La prime serait de 50 p. 100 si le projet permet d'augmenter l'indice de la qualité de la nutrition d'une personne, par exemple, de 80 à 82. Elle serait de 25 p. 100 et seulement de 5 p. 100 si cet indice passe de 85 à 87 et de 90 à 92, respectivement. Après un certain niveau, par exemple un indice de 95, la prime

**Dans le domaine de l'analyse coûts-avantages, la déclaration ou le triomphalisme n'y a pas sa place, mais le dévouement, l'humilité, le dur labeur et la rigueur sont, par contre, de mise.**

serait de zéro. Ce cadre des besoins fondamentaux est parfaitement flexible. Un gouvernement pingre et austère pourrait fixer la prime initiale à

15 p. 100 seulement et le plafond de l'indice à 90. Par contre, un gouvernement très préoccupé par une note d'avertissement la plus évidente d'instituer l'analyse coûts-avantages comme une politique concrète tient au fait qu'on a tendance à approuver de nombreux projets, même si leurs coûts dépassent de loin leurs avantages. Cela arrive facilement parce qu'il est très fréquent que les avantages des projets publics se concentrent dans un secteur particulier ou dans un groupe limité de bénéficiaires (p. ex., le groupe des agriculteurs desservis par un barrage d'irrigation). Ces bénéficiaires pensent que le projet est la merveille du monde, alors que ses coûts pourraient dépasser le double de ses avantages. Et de leur point de vue, ils ont certes raison, car ils reçoivent tous ou presque tous les avantages du projet et, en revanche, n'assument peut-être que de cinq à dix pour cent des coûts. Les perdants sont les contribuables, ceux qui payent entre 90 et 95 p. 100 des coûts pour les autres.

Mais, comme dans tout projet, ces coûts sont tellement dispersés qu'aucun contribuable ne paie un montant notable. Aussi, sont-ils peu portés à s'organiser pour défendre des intérêts très éparés. Or, le rôle d'un système formel d'analyse coûts-avantages est précisément de défendre l'intérêt général contre la clameur d'une cohorte de bénéficiaires à l'autre, demandant la mise en oeuvre depires projets.

Cette triste histoire ne s'arrête pas là. Les politiciens et les administrateurs ont tendance à répondre aux pressions des groupes de bénéficiaires et sont facilement amenés à soutenir de mauvais (ainsi que de bons) projets. Souvent, ils ne remarquent même pas la différence. Cependant, nous trouvons aussi des coûts-avantages et qu'il y a tout lieu de

## Le talon d'Achille

prévoir d'autres gains, à condition que nous déployions tous les efforts nécessaires.

nécessaires.

nature agréable ou désagréable de notre travail. Par contre, les 6 760 heures de loisirs ont une valeur qui est plus élevée que le salaire que nous pourrions avoir gagné en travaillant davantage. Cette analyse a donné lieu à une évaluation des années de vie de qualité selon différents gains d'une personne actives<sup>1</sup>.

Les lecteurs comprendront que nos solutions sont loin d'être parfaites, mais le travail acharné et l'extrême ingéniosité nous ont permis de réaliser des progrès remarquables dans l'élargissement de la portée de l'analyse coûts-avantages à de nouveaux champs. Il convient d'ailleurs de réitérer un conseil important. Il est préférable de procéder avec prudence plutôt que de s'élancer en avant sans réfléchir. Lorsqu'on « vend » un projet, on est en terrain solide si l'on peut soutenir de façon plausible que le projet est acceptable bien qu'on ait consciemment sous-estimé ses avantages et surestimé ses coûts. Ainsi, revenons au domaine médical. De nombreux projets se révèlent justifiés, même si nous donnons aux années de vie de qualité une valeur correspondante aux revenus annuels des travailleurs à compétences égales. La sous-estimation est sans doute considérable dans ce cas, étant donné que l'analyse économique et des données empiriques confirment une augmentation notable des revenus annuels. Dans d'autres domaines, on peut recourir au principe voulant que l'absence d'avantage ait une plus grande valeur que le coût d'option pour produire le même avantage. Ce principe a été l'étalon-or de l'analyse coûts-avantages

- 1 Ces résultats ont été confirmés par des études empiriques concernant des emplois à risque. Dans quelle mesure, à compétences égales, les gains provenant d'un emploi dangereux sont plus élevés que ceux d'un emploi sans danger? Cette comparaison donne lieu à une valeur implicite des années de vie qui est généralement beaucoup plus élevée que les gains annuels.
- 2 Il s'agit ici d'un exemple stylisé et simplifié. Dans le monde réel, on effectue des analyses coûts-avantages pour le système de production de l'électricité au complet. Le modèle d'estimation de la demande est appliqué aux années à venir et la production est optimisée en minimisant le coût de la satisfaction de cette demande prévue. Cette optimisation est effectuée « avec » ou « sans » le projet en étude. Le projet est considéré acceptable si la valeur actuelle de tous les coûts (d'investissement et de fonctionnement) est plus faible « avec » l'investissement considéré que sans cet investissement.

## Pauvreté, répartition des revenus, besoins fondamentaux

Nous avons ici des projets d'électricité. Nous avons la chance d'avoir des solutions de rechange véritables, normalisées et bien définies qui comprennent l'équipement de production fabriqué par des entreprises comme General Electric, Siemens et Mitsubishi. Lorsque nous avons la tâche d'évaluer un projet hydroélectrique ou géothermique, nous nous posons la question de savoir quel serait le coût pour fabriquer un modèle de production d'énergie, en utilisant le matériel dans le catalogue de la GE. Ce coût d'option est celui que nous économiserons si nous mettons en œuvre le projet hydroélectrique ou géothermique en question<sup>2</sup>.

Famille ayant un revenu de 200 000 \$ un coefficient de 1/2. En dépit de son attrait initial, ce système ne reflète pas les vraies valeurs de la société réelle. Dans notre exemple, le principe de la répartition de pondération des poids favoriserait l'approbation d'un projet ou d'une politique qui prendrait 10 millions de dollars des personnes avec un coefficient de 1/2 (c.-à-d. un coût social de 5 millions de dollars) et finirait (à cause des coûts administratifs et des inefficacités économiques) par fournir des avantages d'une valeur de 3 millions de dollars aux bénéficiaires avec un coefficient de 2 (c.-à-d. un avantage social de 6 millions de dollars). Cette sorte de compromis entre des considérations en matière de répartition et l'efficacité économique s'insérerait dans tous les coins et recoins de la politique économique si l'on attachait vraiment foi au cadre de répartition de pondération.

Une solution de rechange judiciaire à la pondération de répartition consiste à élaborer un cadre en fonction des externalités liées aux besoins fondamentaux. Ce cadre est basé sur l'idée que la société est disposée à payer un montant supplémentaire (une prime) pour réduire le degré auquel les besoins fondamentaux des pauvres ne sont pas satisfaits. Le cadre des besoins fondamentaux est assez paternaliste. Il n'approuve pas le fait de donner de l'argent aux pauvres s'ils le dépensent dans l'alcool, le jeu ou dans d'autres vices ou frivolités, mais il applaudit l'utilisation des fonds publics pour l'éducation des pauvres, l'élargissement de leur accès aux soins médicaux



entendons souvent dire qu'une perte de vie », disons, des cas de pneumonie ou de malaria. Mais à l'évidence, les êtres humains meurent tôt ou tard et le fait qu'une personne survive à une pneumonie peut signifier simplement qu'elle pourra mourir un mois plus tard de grippe. Si les analystes de coûts-avantages réfléchissent dans ce sens, ils devront se pencher sur le nombre de mois ou d'années de vie supplémentaires gagnés à une innovation ou un projet donné. La prochaine étape consiste à reconnaître que ces années supplémentaires peuvent n'avoir une valeur faible ou douteuse si la personne en question sera atteinte, comateuse ou affaiblie. Cela a donné le concept des années de vie de qualité, lequel ne tient implicitement compte que du temps de qualité des années de vie supplémentaires. Ces progrès sont valables en soi, parce qu'ils nous forcent à réfléchir sur des problèmes difficiles et complexes, mais ils nous laissent le soin de donner une valeur monétaire aux années de vie de qualité.

Comment pouvons-nous donner une valeur à ces années? Une fois de plus, les gains constituent le point de départ habituel pour répondre à une telle question, mais la théorie économique a introduit le présent en question. La ligne de base de pensée est que la plupart des gens « choisissent » le loisir, dans le sens où ils pourraient facilement trouver un deuxième emploi ou travailler plus longtemps dans le cadre du premier emploi, mais leur « volonté de payer » des heures de loisir est au moins aussi importante que le salaire qu'ils pourraient obtenir s'ils travaillaient d'avantage. Suivant ce raisonnement, l'avantage des 2 000 heures que la plupart d'entre nous consacrent au travail est égal à notre salaire horaire moins la désutilité du travail. Le gain net de ces heures peut, par conséquent, être minime en fonction de la

ment de gains réels est alors considéré comme un avantage duquel on déduit les coûts de l'éducation de la petite enfance ainsi que les augmentations dérivées de l'éducation. On adopte parfois une approche semblable pour évaluer les avantages des programmes médicaux qui viennent s'ajouter à la vie professionnelle et, par conséquent, aux gains à vie de la population concernée. Bien que l'on ne puisse nier la plausibilité et l'utilité de ces mesures des avantages, on doit reconnaître qu'elles ne sont pas raffinées et qu'elles négligent des aspects importants des avantages. Existe-t-il des avantages intrinsèques de nombreux types d'éducation — une plus grande capacité à faire face aux défis de la vie, etc. — qui sont présents, même lorsque les personnes concernées poursuivent une carrière qui n'est pas plus lucrative que la solution de rechange (p. ex., être enseignant plutôt qu'être plombier)? D'autre part, est-ce que des progrès médicaux fournissent des avantages notables, même pour les retraités et les femmes au foyer qui n'ont aucun revenu, qu'un projet médical soit entrepris ou non?

**Élargir la portée de l'analyse coûts-avantages**

Ces questions rhétoriques soulèvent toute une panoplie de problèmes à l'analyse coûts-avantages, des termes à l'avenir, mais dont nous pourrions tirer profit en les décortiquant un par un, en raffinant nos capacités à voir de qualité » en est un exemple. Nous

quels que soient les autres aspects de la solution de rechange que vous choisissez. Le même type de raisonnement vaut pour les vendeurs d'un article. Ces deux principes s'appliquent partiellement à la plupart des produits et des services commercialisés et nous obligent à tenir compte des prix du marché comme des mesures des avantages et des coûts, les prix comprennent les taxes dans le cas de la demande (pour mesurer la valeur que le demandeur paie réellement) et sont déduits des taxes dans le cas de l'offre (pour mesurer la valeur que le fournisseur obtient réellement).

**Évaluer les avantages dans d'autres domaines**

Ces principes peuvent, dans bien des cas, s'appliquer à des biens ou des services qui n'ont pas de marché direct. Ainsi, pour les autoroutes et les projets d'irrigation, nous pouvons fixer un « prix » qu'un conducteur ou un agriculteur serait prêt à payer pour chaque trajectoire ou pour chaque mètre cube d'eau, respectivement. Mais ces concepts sont difficiles à appliquer à des programmes d'éducation de la petite enfance, de recherche médicale ou de défense nationale.

Dans des domaines aussi complexes, les économistes ont dû se livrer à des tours de passe-passe. Une solution consiste à tenir compte de l'augmentation du produit national généré par un projet donné. Ainsi, l'éducation des jeunes enfants permet à la population de mieux se préparer pour l'école ordinaire, de fréquenter l'école plus longtemps et de se doter d'une plus grande capacité lucrative durant leur vie active. L'accroisse-

**Le rôle d'un système formel d'analyse coûts-avantages est précisément de déterminer l'intérêt général contre la détérioration d'une cohorte de jeune-fficiaires à l'autre, demandant la mise en œuvre de pires projets.**

deux modes de transport et l'autre moi-  
tié, l'autre mode, ils sont, selon les éco-  
nomistes, « en moyenne » différents et  
évalueront ensuite à 10 \$ l'heure leur  
temps de déplacement.

Les projets d'irrigation en sont un autre  
exemple. Nous avons besoin de mettre  
un prix sur l'eau qui sera fournie, par  
exemple, par un barrage d'irrigation.  
Cette tâche est grandement facilitée si  
l'on constate une utilisation importante  
de la pompe d'irrigation ou de la rivière  
dans la région. On peut, dans ce cas, éta-  
blir une hiérarchie : l'eau provenant de  
l'irrigation par pompage vaut plus que  
l'eau d'un barrage, laquelle vaut plus  
que l'eau de la rivière. Pourquoi? Parce  
que les agriculteurs peuvent pomper de  
l'eau quand ils en ont le plus besoin, tan-  
dis que l'eau de la rivière dépend des  
quotas basés sur les débits des cours  
d'eau. Un barrage d'irrigation ajoute de  
la valeur à l'eau de la rivière, parce qu'on  
peut la stocker pendant les périodes de  
faible demande de la part des agricul-  
teurs et l'utiliser ensuite pendant les  
périodes où les agriculteurs en ont  
besoin davantage. D'autre part, un bar-  
rage permet d'approvisionner en eau  
les agriculteurs qui la veulent « en  
moyenne ». Les barrages ne sont pas  
aussi efficaces que l'irrigation par pom-  
page qui permet aux agriculteurs d'obte-  
nir exactement le volume d'eau dont ils  
ont besoin.

S'il y a un seul principe de base régissant  
la mesure des avantages et des coûts, ce  
sera la « volonté de payer » et son reflet  
qui est la « volonté de fournir ». Ces  
concepts, connus des économistes  
comme étant « le prix de la demande  
concurrentielle » et le « prix de l'offre  
concurrentielle », ont été au cœur de  
l'économie du bien-être depuis plus de  
150 ans. Ils s'appuient sur le fait que si  
vous n'êtes pas disposé à payer 1,01 \$  
pour un article, mais 99 cents, un point  
avoir, entre ces deux prix, un point  
auquel vous êtes réellement indifférent,

utilisés, en partie parce qu'il est facile de  
mesurer les effets externes générés en  
valeur monétaire. Cependant, une route  
nouvelle série de problèmes se pose dans  
les cas où les avantages ou les coûts  
(directs ou externes) du projet sont en  
nature plutôt qu'en espèces.

Des projets routiers (des projets de trans-  
port en général) donnent de bons  
exemples à cet égard. Les avantages éco-  
nomiques fondamentaux consistent en la  
réduction des coûts de déplacement des  
personnes ou des marchandises. Ainsi,  
un projet d'aménagement des routes  
peuvent apporter des avantages sous  
forme de réduction des coûts du carbu-  
rant ou de l'usure des véhicules, etc. Ces  
avantages relativement faciles à estimer et  
les ingénieurs des routes ont élaboré des  
tableaux pour représenter ces coûts en  
termes de litres de carburant et d'usage  
des pneus par 100 kilomètres, de  
nombre de kilomètres qu'un véhicule  
tiendra pour chaque type de route.  
Cependant, le plus grand avantage de  
l'aménagement des routes est, dans la  
plupart des cas, le gain de temps pour les  
conducteurs et les passagers. Or, il est  
facile de mesurer ce gain de temps pour  
les camionneurs et les conducteurs d'au-  
tobus qui reçoivent un salaire en espèces,  
mais pour les autres, la valeur du temps  
de parcours est totalement subjective.  
Les profanes accordent habituellement  
au temps de déplacement une valeur  
équivalente au salaire horaire de la per-  
sonne en question, mais les spécialistes  
ont appris que les gens donnent à leur  
temps de parcours une valeur inférieure  
à leur salaire horaire. Comment cela se  
fait-il? Examinons le choix entre prendre  
l'autobus et conduire. Le coût en dollars  
du trajet en autobus est plus bas, mais  
celui du temps est plus élevé. Supposons  
que le déplacement en autobus prend  
une heure de plus par jour et coûte 10 \$  
de moins que le fait d'utiliser sa voiture  
et de la stationner. Si la moitié des gens  
(avec un revenu donné et d'autres carac-  
téristiques) doivent choisir un de ces

En raison de l'hétérogénéité du facteur  
de travail, l'approche la plus pratique est  
de considérer les dépenses réelles en  
matière de main-d'œuvre comme des  
montants de référence intégrés dans  
l'analyse « financière » d'un projet. Ce  
coût de référence est ensuite ajusté,  
d'une part, à la hausse afin de tenir  
compte de la perte d'impôts pour  
chaque catégorie de main-d'œuvre aux  
endroits d'où elle provient et, d'autre  
part, à la baisse afin de tenir compte des  
impôts payés par cette catégorie de  
main-d'œuvre ou pour son compte, car  
elle est utilisée pour le projet.

En résumé, il faut appliquer aux  
dépenses pour des biens échangeables  
(ou à la vente de ces biens) un facteur  
d'ajustement pour les changes, qui est un  
pourcentage de la différence entre le  
coût d'option réel de l'opération de  
change et le taux de change futur du  
marché (réel ou prévu). En ce qui  
concerne le capital, les avantages ou les  
coûts économiques nets de chaque  
période sont actualisés par le coût d'op-  
tion du capital. Dans ces cas, les tarifs et  
les taxes indirects (y compris la valeur  
ajoutée), ainsi que les impôts des socié-  
tés et fonciers qui sont payés effective-  
ment par le projet, sont considérés  
comme faisant partie des avantages éco-  
nomiques du projet et n'entrent pas dans  
les calculs des « paramètres nationaux ».

Dans le cas du travail, les charges sociales  
payées séparément par le projet, ainsi  
que l'impôt sur le revenu payé par les tra-  
vailleurs, sont traitées de manière symé-  
trique, le coût économique de la  
main-d'œuvre devenant donc le coût  
financier moins les impôts payés « ici »  
plus les impôts perdus ailleurs.

## Évaluer les avantages des projets d'autoroute et d'irrigation

Les exemples ci-dessus sont des éléments  
types d'une analyse coûts-avantages et  
moderne. Ils sont largement acceptés et



Les principaux éléments reproductibles sont les coûts d'option du capital, des devises étrangères et de la main-d'œuvre respectivement, les deux premiers étant finalement très généraux. Le marché financier d'un pays est sensible aux demandes et offres supplémentaires de fonds, mais « comprend » rarement voire ignore le secteur ou le domaine qui

Dans l'analyse coûts-avantages, on fait une importante distinction entre des éléments de coûts et d'avantages qui apparaissent à maintes reprises dans plusieurs projets (voire presque tous) et des éléments qui sont propres à chaque projet. Les éléments de la catégorie des reproductibles peuvent et doivent être étudiés en profondeur, de préférence par un bureau central de projet (ou sous son égide). Quant aux éléments propres à des projets, ils relèvent habituellement et presque nécessairement de la responsabilité des équipes qui évaluent chaque projet.

## **nationalaux** **Au sujet des paramètres**

Aussi n'est-il pas étonnant que les progrès soient lents au chapitre de la transition vers une application rigoureuse de l'analyse coûts-avantages à l'ensemble des projets et des programmes relatifs ment aux dépenses des budgets gouvernementaux, y compris celles de la réforme réglementaire. Est-ce que cela signifie que nous ne devons pas essayer? Que les nouveaux efforts déployés seraient voués à l'échec? Bien sûr que non. Des fruits mûrs qui attendent d'être cueillis sont là, si seulement les gouvernements font preuve d'efforts sérieux et déterminés.

(comme la clarté de l'eau, la pureté de l'air, la beauté de la nature pour ce qui est des avantages et l'engorgement des routes, la pollution de l'air et de l'eau, ainsi que la contagion de maladies pour ce qui est des coûts).

des exportateurs).

satisfait soit par de nouvelles augmentations de l'offre, soit par l'élimination d'autres demandeurs. C'est exactement ce qui se passe dans le mécanisme des prix lorsqu'une nouvelle demande apparaît et ce qui est vrai pour le marché du blé l'est également pour presque tous les autres marchés, y compris, bien sûr, les marchés des capitaux et des devises étrangères. Une nouvelle demande de capital aura pour effet d'éliminer d'autres demandeurs nationaux, de stimuler l'épargne locale et d'attirer un afflux de capitaux de l'étranger. Ces répercussions se produisent spontanément, parce que la nouvelle demande entraînera forcément un resserrement du marché. De même, on peut en fait satisfaire une nouvelle demande de devises étrangères, en excluant d'autres demandeurs de devises étrangères (principalement des importateurs) et, d'autre part, en stimulant des fournisseurs nationaux de devises étrangères (principalement des exportateurs).

ou à importer des matériaux. On peut ainsi considérer les coûts d'option du capital et des devises comme des paramètres nationaux importants. L'élément clé dans l'estimation de ces paramètres est ce que nous appelons le « modèle de source d'approvisionnement » pour l'article en question. En fin de compte, une nouvelle demande de blé sera

génère ces demandes ou ces offres. Il en va de même pour ce qui est des devises étrangères. Une demande donnée de dollars ou d'euros aura la même incidence sur le taux de change, peu importe si ces devises servent à financer un voyage ou un placement à l'étranger

Le cas du travail est plus nuancé en raison de la grande variété des professions, des compétences et des spécialités qui composent la main-d'œuvre d'un pays. En plus de ces différences, on trouve aussi d'importants écarts salariaux entre les régions, et même entre les emplois dont la description générale est semblable, mais dont les « valeurs d'ajustement » diffèrent. En gros, la meilleure approche pour mesurer le coût d'option économique de la main-d'œuvre consiste à utiliser le taux de salaire du marché du lieu du projet comme point de départ, puis à l'ajuster pour tenir compte des « externalités » pertinentes, qui sont surtout l'impôt sur le revenu des particuliers et les charges sociales.

De même, lorsqu'un projet nécessite des devises étrangères, nous évaluons le coût en termes de valeur économique des importations qui sont annulées et de coût en ressources supplémentaires des exportations qui sont stimulées. Dans la plupart du temps, la valeur des importations annulées sera mesurée par le taux de change, les tarifs appliqués et les taxes de ventes et d'accises, alors que celle des exportations stimulées, par le taux de change applicable plus les subventions à l'exportation (ou moins toutes les taxes à l'exportation).

Pour évaluer le coût d'option du capital, il nous faut évaluer, pour l'économie en question, le coût véritable du déplacement de ces investissements et la compensation véritable en vue de stimuler des épargnes volontaires supplémentaires, ainsi que le coût marginal effectif nécessaire pour attirer de nouveaux capitaux de l'étranger.

**S'il y a un seul principe de base régissant la mesure des avantages et des coûts, ce sera la « volonté de payer » et son reflet qui est la « volonté de fournir ».**

entreprises, mais elles ont la tâche facile, car il est bien plus simple pour elles de déterminer et mesurer les avantages et les coûts (les flux de trésorerie entrants et sortants) et d'évaluer un seul point de convergence (le bilan de l'entreprise). Néanmoins, les premières impressions peuvent facilement être trompeuses. La question des dépenses (et des régle-ments) peut être très différente sur le plan fiscal et c'est la raison pour laquelle il suffit d'une poignée de personnes qui travaillent au centre du gouvernement pour concevoir et mettre en place une réforme fiscale, alors qu'il faut presque toute une armée pour mener diverses évaluations des centaines de routes, de ponts, de barrages, de projets portuaires, etc. ainsi que des milliers de mesures réglementaires. C'est une grande erreur de mettre toutes les routes dans le même lot et dire « nous aimons les routes ». Il en va de même pour toutes les autres catégories de dépenses ou de ressources réglementaires. En fait, certains résultats ont des avantages qui dépassent de loin des coûts, alors que pour d'autres c'est l'inverse. Il s'agit justement là de la tâche d'une bonne analyse coûts-avantages afin de déterminer qu'est-ce qui est quoi, ce qui consiste essentiellement à évaluer chacune des mesures de manière cohé-rente et systématique et qui nécessite, par conséquent, une armée au lieu d'une poignée de gens pour faire des progrès notables.

Une autre série de questions se posent si l'on considère, contrairement aux entre-prises, qu'un gouvernement responsable s'efforcerait d'évaluer les avantages et les coûts d'une initiative ou d'une mesure donnée en termes de ses conséquences non seulement sur un bilan précis, mais aussi sur le bien-être de l'ensemble de la population du pays. En plus de cette lourde tâche, il voudrait également compter un certain nombre d'importants types d'avantages et de coûts

Comparativement à l'évolution considé-  
rable dans le domaine fiscal, les pays ont  
fait peu de progrès (et souvent aucun)  
dans la rationalisation de leurs dépenses  
publiques. À première vue, il semble  
bizarre, car ne sera-t-il pas plutôt normal  
de peser d'abord les avantages et les coûts,  
puis de reporter les mesures dont les  
coûts s'avèrent plus élevés? C'est certaine-  
ment le mode de fonctionnement des

l'analyse conduisant à des réformes que  
pour apporter de la matière et du soutien  
dans la lutte pour leur adoption.

## L'analyse coûts-avantages : un aperçu

U ne des réalisations moins remar-  
quées en matière de politique au  
cours des dernières années a été  
l'amélioration spectaculaire de la poli-  
tique fiscale dans la plupart des pays. Les  
obstacles au commerce ont été grande-  
ment diminués, les taux marginaux  
d'imposition sur le revenu les plus élevés  
ont été réduits de moitié ou plus, la taxe  
sur la valeur ajoutée (qui entraîne de  
loin le moins de distorsions de toutes les  
principales taxes) est devenue monnaie  
courante (alors qu'elle était encore inexis-  
tante en 1952, elle est maintenant en  
tête de liste et génère, à l'échelle mon-  
diale, plus de recettes que toute autre  
taxe). Tout indique que ces accomplisse-  
ments fiscaux sont attribuables aux  
efforts des économistes professionnels  
dans le monde tant pour mettre au point

Contexte

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Université de la Californie  
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dure de gestion des risques comportant des étapes standards, bien qu'avec un engagement digne de mention envers l'auto-évaluation, qui ne va pas de l'avant avant qu'une étape ait été réalisée de façon satisfaisante. La barre de gauche présente une interaction bidirectionnelle avec le public. Cette interaction cherche à centrer le processus sur les préoccupations du public et à faire en sorte que ses conclusions soient les plus crédibles possibles. La méthode de classement des risques de l'Université Carnegie Mellon pourrait constituer une méthode scientifique sensée pour la mise en pratique de cette philosophie.

Dans cette représentation abstraite, les niveaux de risque possibles sont mesurés en fonction d'une seule dimension appelée « importance du risque ». Sur cette échelle, un risque zéro signifie qu'aucune attention supplémentaire ne sera accordée à ce risque. La hauteur de chaque des courbes (une fonction de densité) montre la probabilité de présenter ce niveau de risque.

L'étroitesse des courbes correspondant aux risques 1 et 3 signifie qu'ils sont relativement bien compris. Leur emplacement sur l'échelle montre que le risque 1 devrait définitivement être classé plus bas que le risque 3. Le manque de relief de la courbe associée au risque 2 signifie qu'il est beaucoup plus mal compris que les risques 1 et 2. Son classement est aussi moins évident. Il est plus probable que le risque sera peu élevé, mais il existe une certaine probabilité qu'il soit plus élevé. Certaines personnes, qui sont particulièrement préoccupées par les risques plus importants, pourraient lui accorder un rang plus élevé.

Des personnes de quatre groupes différents ont évalué 30 activités et technologies en fonction de neuf attributs (par exemple le caractère volontaire, l'efficacité). Une méthode statistique (l'analyse factorielle) a permis de cerner deux dimensions sous-jacentes du risque. Des risques qui se situaient haut sur l'échelle

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et des éléments exemplaires à l'adresse suivante : <http://sds.hss.cmu.edu/risk/> (anglais seulement).

## Le classement du risque dans la pratique

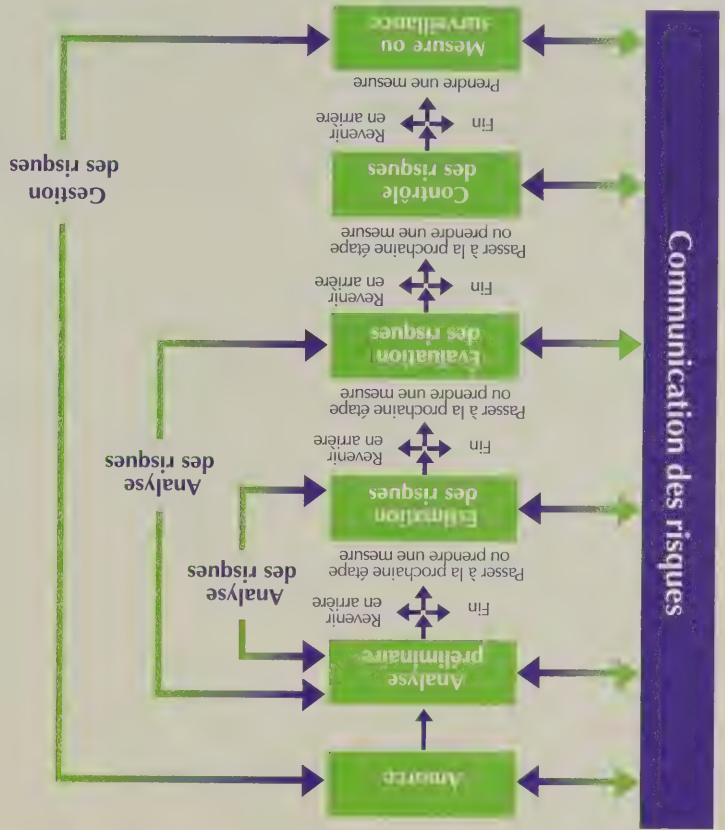
La méthode de classement des risques de l'Université Carnegie Mellon appliquée les résultats des études analytiques et empiriques des risques à la réalité circoscrite dans les directives de l'EPA. Ses évaluations empiriques portent à croire que l'on pourrait s'appuyer sur cette méthode pour soutenir de véritables décisions avec un large éventail de risques et d'intervenants. Elle est fondée sur une étude approfondie concernant les attributs des risques que les gens trouvent importants, la façon de les caractériser scientifiquement et la façon de les présenter pour qu'ils soient compréhensibles. Une variante de la méthode de l'Université Carnegie Mellon a été appuyée par une initiative visant à améliorer la gestion des risques du gouvernement du R.-U. Adaptée grâce à des consultations avec des employés de plusieurs ministères, elle est conçue pour être appliquée de façon efficiente, sans formation spéciale (HM Treasury, 2005). Appelée méthode d'« évaluation des préoccupations », elle caractérise six attributs des risques : la familiarité, la compréhension, l'équité, l'effort, le contrôle et la confiance. Les risques sont classés séparément en fonction de la perception que les experts et le public en ont. Ces classements complètent les estimations scientifiques du nombre de décès et d'autres torts de même que les estimations de leurs équivalents monétaires (dans la mesure du possible).

En ce qui concerne la viabilité de la méthode dans des conditions canadiennes, le graphique 3 présente une philosophie de gestion des risques, promulguée par l'Association canadienne de normalisation, qui a eu une incidence sur l'élaboration de la méthode. La colonne du centre propose une procé-

La méthode a été évaluée dans le cadre de longues séances de groupe, composées de profanes et de professionnels en gestion des risques. De façon générale, les participants avaient tendance à s'entendre sur les classements, même quand ils n'étaient pas d'accord sur l'importance des attributs. De plus, cet accord augmentait au fur et à mesure que les débats progressaient, sans que rien n'indiquât qu'il y ait eu des pressions inappropriées exercées par des membres du groupe. Vous trouverez des détails sur les procédures et les évaluations dans Florit et coll. (2001), Morgan et coll. (2001a) et Willis et coll. (2004, 2005).

divers moments pendant les débats, le groupe a publiquement évalué son niveau de consensus pendant que les membres notaient pour eux-mêmes leurs opinions personnelles. Deux méthodes différentes ont été utilisées pour susciter un sens critique afin que les participants puissent confirmer leurs valeurs. Le processus tenait pour acquis que ces classements devraient être fondés sur les valeurs de base des personnes qui ont réfléchi aux enjeux et éclairés par les points de vue des autres (Fischhoff, 2005).

Remarque : La communication des risques aux intervenants constitue une part importante de chacune des étapes du processus de prise de décisions.





estimations des risques et d'utiliser les jugements plutôt que pour le remplacer. Elle considère aussi les intervenants bien informés comme étant les arbitres finaux des priorités en matière de risque.

La méthode de l'Université Carnegie Mellon diffère de la pratique de l'EPA de caractériser tous les risques en fonction d'un ensemble commun d'attributs plutôt que de permettre aux participants de choisir les attributs à utiliser. Une telle standardisation est possible pour deux raisons : il y a des attributs que la plupart des gens veulent prendre en compte et qui, par conséquent, font partie de tous les exercices (par exemple la mortalité humaine) et de nombreux attributs potentiellement pertinents y sont associés (par exemple les risques assumés de façon involontaire sont généralement répartis de façon inéquitable). En conséquence, la sélection d'un élément représentatif (ou deux) à partir d'une grappe d'attributs corrélés devrait aborder cet ensemble global de préoccupations. Le graphique 2 présente de tels groupes centraux, représentés comme constituant des dimensions d'un *espace d'attributs des risques*.

Un grand nombre d'autres études, comportant diverses activités et technologies, attributs des risques, évaluateurs des risques et méthodes statistiques, ont donné des schémas semblables : a) les gens évaluent les risques de la même façon en fonction de ces attributs, même quand ils ne sont pas d'accord quant à l'importance à accorder aux attributs; b) les évaluations des attributs sont étroitement corrélées, révélant généralement deux dimensions primaires, dites *inconnu* (verticale) et *effroi* (horizontale).

En se fondant sur ces phénomènes régulateurs, la méthode de l'Université Carnegie Mellon caractérise tous les risques en fonction des mêmes attributs, tels qu'on l'expose dans le tableau 2. Chaque colonne utilise deux attributs différents

Tableau 2  
Une caractérisation standard des risques

Nombre de personnes touchées	Effets sur l'environnement	Connaissances	Effroi
Nombre annuel de victimes attendu	Stress ou changement relatif à l'écosystème	Mesure dans laquelle les effets sont retardés	Potentiel catastrophique
0-450-600	50 km <sup>2</sup>	1 à 10 ans	1 000 fois le nombre annuel de victimes attendu
(Probabilité de 10 % qu'il n'y ait pas de victimes)			
Nombre annuel d'années-personnes perdues	Importance des effets sur l'environnement	Qualité de la compréhension scientifique	Équité des résultats
0-9 000-18 000	Modestes	Moyenne	Moyenne (ratio = 6)
(Probabilité de 10 % qu'il n'y ait pas de victimes)	(Probabilité de 15 % qu'ils soient importants)		

Source : adapté à partir des stimuli élaborés et utilisés par Willis et coll. (2005).

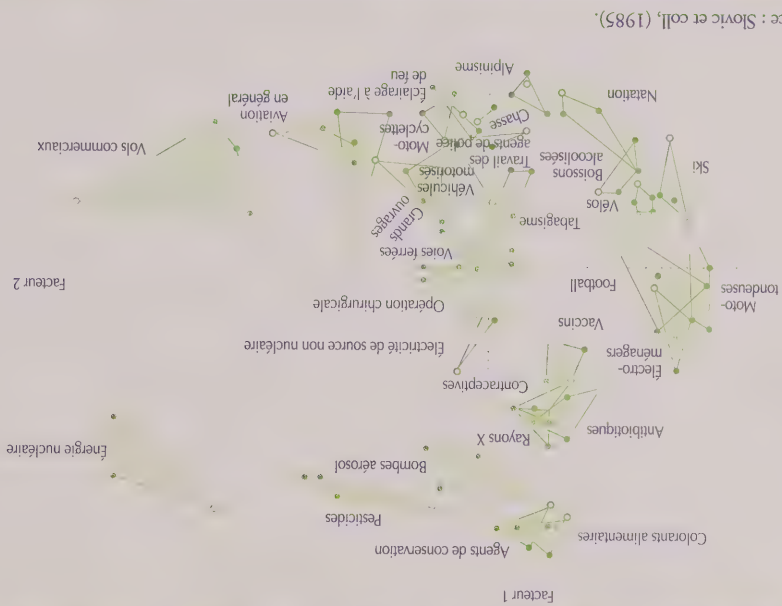
(mais corrélés) pour représenter une dimension de préoccupations, qui communiquent bien son sens. La première colonne compte deux mesures de la mortalité; l'une tient compte de l'âge au moment du décès alors que l'autre en fait fi. La deuxième colonne compte deux mesures des effets sur l'environnement, élaborées à partir des dizaines d'indicateurs utilisés au cours de différentes analyses des effets sur l'environnement (Willis et coll., 2004, 2005). Les deux colonnes de droite comportent des mesures représentant les deux facteurs du graphique 2.

Le visuel du tableau 2, de même que les éléments d'explication qui l'accompagnent, est conçu pour communiquer les faits nécessaires au classement des risques en fonction des attributs que les gens jugent importants. Comme dans le cas de toute communication des risques, ils devaient être évalués de façon empirique avant d'être utilisés à des fins sérieuses (Morgan et coll., 2001b). Cette évaluation devait se rapprocher des conditions dans lesquelles les éléments étaient

destinés à être utilisés : le type de processus de débat modéré en groupe que tout classement crédible des risques suppose. À cette fin, un test expérimental a été créé avec les profils réalistes de 22 risques potentiels dans une école secondaire hypothétique. Les participants de l'étude ont classé les risques, jouant le rôle de citoyens conseillant le conseil scolaire d'un district ayant des ressources limitées relativement à la gestion des risques. Chacun des risques était décrit dans une brochure comprenant un résumé présenté sous forme de tableau comme celui du tableau 2 de même qu'une description narrative ayant fait l'objet d'essais approfondis au préalable.

La procédure utilisée pendant les débats s'efforçait d'être respectueuse des points de vue des personnes et des groupes, d'appuyer sur le guide de l'EPA et sur le rapport influent du National Research Council des États-Unis intitulé *Understanding Risk* (1996). Avant de se réunir en groupe, les personnes ont procédé à des classements personnels des risques. À

**Figure 2**  
Emplacement de 30 risques à l'intérieur de l'espace de risque tenant compte de deux facteurs



Source : Slovic et coll. (1985).

processus de délibération, il est peu probable que les questions soient véritablement bien comprises (US NRC, 1996). En général, elles sont trop complexes pour qu'une personne les comprenne totalement sans avoir écouté les points de vue d'autres personnes. De plus, des débats publics transparents avec des personnes en qui on a confiance peuvent être nécessaires pour que les classements aient une crédibilité externe. Deux décennies de recherche et de pratique ont permis d'établir une base pour que les méthodes atteignent ces objectifs.

## Classer les risques à l'EPA des Etats-Unis

L'Environmental Protection Agency (EPA) des Etats-Unis a longtemps cherché à établir son programme de réglementation et de recherche de façon systématique. Un rapport qui a fait date, *Unfinished Business* (US EPA, 1987), résumait les avis de 75 employés concernant le classement des risques gérés par les programmes existants de l'EPA de

même que les risques qu'elle pourrait un jour régler. Un processus semblable, entrepris par le conseil consultatif scientifique de l'EPA, a produit le rapport intitulé *Reducing Risk: Setting Priorities and Strategies for Environmental Protection* (US EPA, 1990). En se fondant sur le cadre créé par ces rapports, l'EPA a mis en place un programme visant à encourager les autorités étatiques et locales à réaliser des exercices de classement des risques. Après avoir soutenu plusieurs dizaines d'exercices de classement, l'EPA a publié un guide intitulé *A Guidebook to Comparing Risks and Setting Environmental Priorities* (US EPA, 1993), contenant des conseils judicieux concernant la tenue de débats respectueux et scientifiquement éclairés. Estimant que son travail de base était fait, l'EPA a financé deux centres régionaux pour soutenir des classements supplémentaires.

## Une méthode de classement des risques

S'appuyant sur la recherche en matière d'analyse du risque et de décisions comportementales, un groupe situé au département d'ingénierie et de politique publique de l'Université Carnegie Mellon a élaboré une procédure de classement du risque qui ajoute la normalisation et la transparence à la méthode participative flexible de l'EPA. Comme la méthode de l'EPA, celle de l'Université Carnegie Mellon reconnaît la diversité des risques et des façons de les évaluer. Cette méthode aussi permet aux préoccupations des participants de mener la sélection et la présentation des

est de déterminer quels risques sont classés et la définition à donner au mot « risque ». Des experts techniques sont chargés de produire des estimations des risques applicables aux préoccupations des participants. L'un des prix à payer pour cette flexibilité et cette réceptivité est une diminution de la transparence. Les personnes qui n'étaient pas dans un groupe doivent faire confiance au travail de ceux qui en faisaient partie parce que les raisons du classement ne sont pas explicites. Un deuxième prix à payer est une comparabilité limitée. En l'absence d'une définition standard du terme « risque », on ne peut pas dire si les différents groupes en sont arrivés à des conclusions cohérentes, ou à une mise en commun des résultats du classement pour les différents domaines, de façon à ce que des priorités globales puissent se dégager.

En raison de ces problèmes méthodologiques et du changement des conditions politiques, le classement systématique des risques n'a pas figuré récemment parmi les priorités de l'EPA. Le département de la Sécurité intérieure des Etats-Unis s'est engagé à prendre des décisions éclairées en tenant compte des risques. Cependant, son travail a comporté des calculs mais aucun débat.

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Les risques sont mesurés en fonction d'unités qui tiennent compte des avantages (par exemple le nombre de décès en fonction du nombre de charbonniers par opposition au nombre de décès par tonnes de charbon extrait) ou en fonction d'unités qui tiennent compte de l'exposition (par exemple le nombre de décès en fonction du kilométrage parcouru) (Fischhoff et coll., 1981; Crouch et Wilson, 1981).

Des choix supplémentaires doivent être faites quand vient le temps de déterminer comment inclure divers types de morbidité dans la mesure du risque. Il y a des discussions théoriques antimées concernant les différentes mesures des années-personnes sans *invalidité* (associées à différents types de torts). Ces mesures tentent de mettre des risques différents sur un pied d'égalité en demandant à des personnes la valeur qu'elles accordent, personnellement, à différents états, et ce, en utilisant des enquêtes structurées dans le but de résoudre les questions éthiques liées à la définition du risque.

La définition du risque est encore plus compliquée quand la mortalité et la morbidité n'englobent pas toutes les préoccupations des citoyens. Par exemple, elles peuvent aussi accorder de l'importance à la mesure dans laquelle l'exposition à un risque est volontaire, à la mesure dans laquelle un risque évoque un sentiment d'effroi, à la mesure dans laquelle il semble contrôlable, au fait d'établir jusqu'à quel moment dans l'avenir ces effets se feront sentir, à la mesure dans laquelle les scientifiques le comprennent bien, à la mesure dans laquelle les personnes qui sont exposées le comprennent, à la mesure

dans laquelle ces effets sont rapidement notables et au fait qu'ils soient relativement nouveaux ou pas (Fischhoff et coll., 1978; Slovic, 1987). Si on ne tient pas compte de ces caractéristiques du risque, on peut rater des questions qui sont essentielles pour les décideurs ou leurs électeurs.

### Un trop grand nombre de valeurs possibles.

Une fois que les caractéristiques des risques ont été établies, le classement peut commencer, entraînant des complications supplémentaires. Il peut arriver que des personnes raisonnables ne soient pas d'accord au sujet de l'importance relative de la mortalité et des diverses formes de morbidité ou même au sujet de l'importance de différents aspects de la mortalité. Par exemple, certaines personnes sont moins disposées à prendre des risques qui sont *potentiellement catastrophiques*, en ce sens qu'ils de nombreuses personnes peuvent mourir d'un seul coup (par exemple l'aviation) que des risques *chroniques*, associés au même bilan théorique de décès se produisant à un rythme plus régulier (par exemple, conduire). D'autres personnes trouvent offensant que la même importance ne soit pas accordée à tous les décès. Ces personnes tiendront peut-être compte du potentiel catastrophique, en raison de sa *valeur symbolique*, estimant que des risques qui peuvent entraîner un grand nombre de décès d'un seul coup sont peut-être mal compris et mal gérés. De la même façon, certaines personnes veulent que tous les risques soient traités de la même façon, que l'exposition à ces risques soit volontaire ou non, alors que d'autres croient que les personnes tirent plus d'avantages des risques qu'elles assument volontairement (Slovic, 2000).

Une tentation courante de simplification concernant le classement du risque est de comparer des risques qui semblent avoir à peu près la même importance, puis de soutenir qu'ils devraient être traités de la même façon. Une comparaison « class-sique » met au même niveau des risques associés au fait de vivre à côté d'une centrale nucléaire pendant 50 ans et le fait de manger une cuillerée à soupe de beurre d'arachides (en raison de la possibilité de contamination par l'aflatoxine). Le tableau 1 résume les failles de raisonnement de ces comparaisons.

Le graphique 1 révèle une difficulté supplémentaire liée au classement des risques, même quand ils ont été ramenés à une unité commune. Les classements dépendent de la statistique utilisée pour représenter un risque dont la valeur n'est pas connue avec certitude (comme c'est presque toujours le cas). Si des moyennes sont utilisées (comme la « supposition la plus éclairée »), les trois risques seraient classés de la façon suivante : trois-deux-un. Si un centile élevé est utilisé (comme pour des cas « à la limite »), l'ordre serait le suivant : deux-trois-un. D'autres statistiques sont aussi possibles, entre autres différentes « suppositions très éclairées » (dans les cas où la moyenne, la médiane et le mode diffèrent).

Quand on utilise ces méthodes, la définition du mort « risque » soulève des questions de valeur fondamentale concernant l'importance des risques; il faut répondre à ces questions avant de pouvoir assembler la preuve scientifique et d'entreprendre le processus de classement. En principe, une organisation pourrait choisir de répondre à ces questions concernant les valeurs avec ses interventions, puis laisser quelqu'un d'autre regrouper la preuve scientifique et calculer les classements. Dans la pratique, la résolution éclairée des questions concernant les valeurs exige généralement des discussions animées avec des personnes ayant des points de vue suffisamment différents. Sans un tel

Un objectif légitime [des comparaisons de risques] est de donner aux bénéficiaires une compréhension intuitive de l'importance d'un risque en le comparant à un autre risque, de nature semblable, que les bénéficiaires comprennent. Par exemple, environ un Américain sur un million meurt d'avoir été frappé par la foudre pendant une année moyenne. Dire que quelque chose est « aussi probable que d'être frappé par la foudre » constituerait une comparaison pertinente et utile pour quiconque a une compréhension intuitive exacte de la probabilité d'être frappé par la foudre, est confronté à peu près à ce risque « moyen » et considère que le risque est comparable à celui d'être frappé par la foudre pour tous les aspects importants. Il n'est pas difficile d'imaginer que chacune de ces conditions puisse ne pas être présente, ce qui rend les comparaisons non pertinentes ou nuisibles :

d) On présume souvent que les risques utilisés à des fins de comparaisons sont généralement considérés comme acceptables à leurs niveaux actuels. Les risques peuvent être acceptés au sens commun que les gens composent effectivement avec eux. Cependant, cela ne les rend pas acceptables au sens que les gens croient qu'ils sont aussi faibles qu'ils pourraient ou devraient l'être.

La deuxième utilisation concevable des comparaisons de risques viserait à faciliter la prise de décisions uniformes concernant les différents risques. Toutes choses étant égales par ailleurs, certains voudraient que des risques semblables provenant de sources différentes soient traités de la même façon. Cependant, un grand nombre d'éléments pourraient devoir être mis sur un pied d'égalité, y compris diverses propriétés des risques qui pourraient faire en sorte que les gens veulent les traiter différemment malgré les ressemblances à un niveau.

Le même risque peut être acceptable dans un contexte et pas dans un autre, si les avantages qui sont associés sont différents (par exemple, être frappé par la foudre pendant que vous jouez au golf ou pendant que vous travaillez sur l'équipe de voirie). Même quand ils prennent volontairement des décisions, les gens évaluent les risques non pas de façon isolée, mais dans le contexte des avantages qui sont associés. Par conséquent, « risque acceptable » est un terme impropre, sauf comme raccourci pour désigner un risque assumé volontairement accompagné d'avantages acceptables.

Source : US NRC (2006; pp. 37-38).

comprene rien à force d'essayer de tout comprendre. Le reste du présent article analyse trois façons pratiques de surmonter trois des principales difficultés liées au classement synchronique des risques.

*Un trop grand nombre de définitions du mot « risque ».* Le diagramme 1 comporte une simplification importante :

tous les risques sont mesurés en fonction d'une unité commune (appelée l'importance du risque). Les analystes du risque ont compris il y a longtemps qu'il n'existe aucune mesure unique du risque. Même quand les personnes qui classent les risques ne se préoccupent que du nombre de décès hypothétiques, ils doivent décider s'ils accordent la même importance à tous les décès ou, si ce n'est

pas le cas, de quelle façon ils vont les pondérer. Par exemple, les risques peuvent être classés différemment selon qu'ils sont mesurés en fonction de la « probabilité théorique de décès prématuré) ou en fonction du « nombre prévu de décès de personnes (jeunes). Les classements peuvent aussi varier quand

b) Tous les Américains ne sont pas exposés au même risque d'être frappés par la foudre. Par exemple, les risques sont, en moyenne, beaucoup plus élevés pour les golfeurs que pour les pensionnaires d'une maison de repos. Un énoncé général tromperait les lecteurs qui n'ont pas pensé à cette variabilité et au risque qu'ils présentent comparativement à l'Américain moyen.

c) Les décès causés par la foudre présentent différentes propriétés. Ils sont parfois immédiats et, d'autres fois, ils sont précédés de souffrances atroces. Il est possible que les victimes et les personnes qui leur auront survécu ne soient pas préparées. Il existe quelques façons de réduire les risques, que

a) Les décès causés par la foudre sont si frappants et médiatisés que les risques peuvent être surestimés comparativement à d'autres événements aussi peu probables. Mais le risque « d'être frappé par la foudre » est emblématique d'un risque très peu élevé, ce qui signifie qu'il est peut-être sous-estimé. Quand l'un ou l'autre des risques se concrétise, la comparaison devient trompeuse.



Normalement, les gens procèdent à un *classement séquentiel des risques*. Autrement dit, ils attendent qu'un risque attire leur attention, puis s'efforcent de mieux le comprendre. En se fondant sur cette compréhension améliorée, ils changent la position de ce risque, le déplaçant vers le haut ou le bas de leur échelle, en espérant lui accorder une attention plus appropriée. Ainsi, un parent pourrait conclure que le bruit de l'autre est

des escaliers brisés et l'obésité chez les élèves. Dans le quartier, une éruption cutanée parent âgé, une vague de cambriolages que fait la voiture, la chute récente d'un parent âgé, une vague de cambriolages dans le quartier, une éruption cutanée inquiétante et des irrégularités au chapitre de la glycémie. À une réunion donc, un conseil scolaire peut devoir décider de l'attention à apporter à des ceintures de sécurité manquantes dans les autobus scolaires, des bagarres dans la cour d'école, une pandémie potentielle, des escaliers brisés et l'obésité chez les élèves.

nombreuses valeurs.

La liste des *risques aux quels un organisme, une entreprise ou une famille est confronté* peut être longue et diversifiée. Par exemple, une journée donnée, un parent peut devoir décider de l'attention à apporter à la toux d'un enfant, un bruit que fait la voiture, la chute récente d'un parent âgé, une vague de cambriolages dans le quartier, une éruption cutanée inquiétante et des irrégularités au chapitre de la glycémie. À une réunion donc, un conseil scolaire peut devoir décider de l'attention à apporter à des ceintures de sécurité manquantes dans les autobus scolaires, des bagarres dans la cour d'école, une pandémie potentielle, des escaliers brisés et l'obésité chez les élèves.

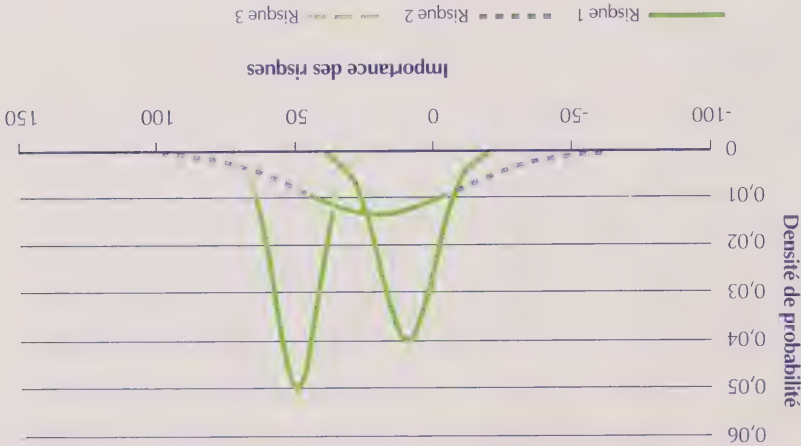
## Difficultés liées au classement des risques

L'analyse des risques est un champ interdisciplinaire à l'intérieur duquel on elaborer et applique des méthodes de calcul et des approches empiriques de façon à comprendre les risques. Elle a permis de cerner trois difficultés liées au classement des risques : un trop grand nombre de risques, de trop nombreuses définitions du mot « risque » et de trop nombreuses valeurs.

Au fil du temps, le classement séquentiel des risques pourrait mener à un meilleur établissement des priorités ou il pourrait nous porter à nous concentrer sur des risques mineurs frappants tout en négligeant des risques très importants. Les parents peuvent négliger leurs problèmes de santé importants tout en accordant de l'attention à des préoccupations mineures concernant leurs enfants, leurs voitures et leur maison. Les conseils scolaires peuvent ne pas tenir compte de désastres potentiels pendant qu'ils tentent de régler des problèmes routiniers et composent avec des groupes ayant des revendications particulières.

simplement agaçant et s'efforcer de ne plus y penser. Un conseil scolaire pourrait conclure qu'il vit sur du temps emprunté en matière de préparation en cas de pandémie, puis tenter de rasser les autres risques afin d'accorder l'attention nécessaire à une possible pandémie.

Source : Long et Fischhoff (2000).



**Graphique 1**  
Certains facteurs de complexité du classement des risques, dans un cas simple

Quand le classement séquentiel se révèle incroyablement inefficace, il faut avoir recours à un *classement synchrone des risques* : examiner tous les risques d'un seul coup. Si attrayante que puisse être cette idée, en principe, son exécution présente des difficultés importantes. Le graphique 1 montre, de façon abstraite, les problèmes qui peuvent se présenter pendant le classement de trois risques mesurés sur une seule échelle. Au fur et à mesure que le nombre de risques augmente, la complexité d'un classement synchrone peut augmenter de façon exponentielle, limitant l'attention accordée à une partie du travail. Dans des cas extrêmes, il peut arriver qu'on ne

continue.

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Président de la National Academy  
of Sciences (E.-U.)  
Comité consultatif en matière de  
communication du risque de la FDA

Example 4

Un bon classement des risques est essentiel à une gestion efficace des risques. En l'absence d'un bon classement, de petits risques pourraient recevoir une attention injustifiée pendant que des risques importants seraient négligés. Parmi les difficultés relatives au classement des risques, mentionnons le nombre même de risques qui doivent être pris en considération, les diverses définitions du mot « risque » et les divergences entre les intervenants concernant les conséquences les plus importantes. Pour relever ces défis, il est nécessaire de comprendre et d'analyser les risques et de savoir prendre les décisions qui s'imposent. Une méthode pratique permet d'en arriver à un classement sensé, transparent et crédible des risques.

les risques.

normalisation.

de petits risques qui sont faciles à gérer

risques dans tous les domaines, nous ne disposons que de ressources limitées pour les gérer. Dans un monde idéal, nous examinerions régulièrement nos priorités pour déterminer à quels risques il faut accorder plus d'attention et auxquels il faut accorder moins. Dans la réalité, les examens systématiques des priorités en matière de gestion du risque sont aussi rares dans le secteur public qu'ils le sont dans notre vie privée. Cela revient à dire qu'en général, nous nous en sortons tant bien que mal en attendant que les circonstances portent un

10



On peut avoir recours à des principes d'uniformité horizontale et verticale pour contribuer à la réduction des manques d'uniformité potentiels entre les mesures réglementaires. L'équité horizontale signifie consacrer la même intensité d'examen à des analyses réglementaires d'échelle et de portée similaires. L'équité verticale signifie consacrer des efforts proportionnels à l'échelle et à la portée. Les manques d'uniformité et les erreurs

lyses examinées avec la même intensité mais qu'il est extrêmement difficile de faire preuve de la même intensité dans l'étude de toutes les analyses. Si un organisme d'examen examine des analyses en concurrence mutuelle, il doit prendre grand soin d'éviter les manques d'uniformité qui donnent ne serait-ce que l'apparence de subjectivité.

raisonnables.

**Les fonctions d'examen critique représentent une forme particulière de réglementation, ce qui explique que le choix et la conception de cette fonction au Canada doivent être éclairés par une analyse rigoureuse de toutes les options raisonnables.**

cela suscite des questions sur la raison pour laquelle il n'a pas exercé le droit de veto qui lui a été conféré.

**L'application équitale**

d'examen a un droit de veto, il a tendancé à l'exercer assez rarement, ce qui réduit son efficacité. Si, comme aux États-Unis, l'organisme a aussi l'obligation de faire rapport au public, il ne peut dévoiler le mauvais rendement d'un organisme de réglementation sans que

L'artéfact de l'application équitale sera immédiatement mis à l'épreuve par la capacité institutionnelle de l'organisme d'examen, surtout par son budget. Le choix du modèle de fonction critique devrait donc tenir compte d'une attente raisonnable qu'il est possible d'y allouer des ressources et que ce sera vraisemblablement fait. Pour qu'une fonction d'examen centralisée comme celle des États-Unis soit efficace, il faut effectuer des investissements très élevés dans un effectif professionnel hautement qualifié. S'il est probable que la fonction critique ne sera pas bien financée ou que les fonds baisseront progressivement comme aux États-Unis, il faut opter pour un autre modèle pour tirer profit de maigres ressources. Par exemple, un modèle stimulant la réalisation concurrentielle d'analyses réglementaires, dans lequel

dans le classement des propositions de propositions de mesures dont l'impact dépasse manifestement un seuil de coût clairement défini mais difficile à mettre en application. Les organismes de réglementation peuvent échapper à cette exigence en ayant recours à diverses tactiques, comme la division d'un règlement important en plusieurs sections dont le coût demeure inférieur au seuil de l'analyse obligatoirement ou la solution très simple de ne pas effectuer la moindre analyse préliminaire afin de déterminer si les coûts de la réglementation dépassent le seuil.

**Conclusions**

Il existe de nombreuses options de structure et de mise en application d'une fonction d'examen critique des études de la réglementation et aucun modèle ne s'est révélé supérieur pour les divers groupes d'intérêts. En pratique, pour le Canada, il faudrait commencer par effectuer une évaluation réaliste des contraintes de fonctionnement de sa fonction critique. Pour que celle-ci soit efficace, elle doit être conçue en tenant compte de ces contraintes. Après quoi, plusieurs options peuvent être envisagées en cherchant à maximiser l'impact net du programme. Il serait utile en effet de comparer des options en se servant des outils analytiques que les organismes de réglementation doivent normalement utiliser lorsqu'ils proposent de nouvelles réglementations.

Il y a de bonnes raisons de croire qu'une fonction d'examen critique comprenant la réalisation concurrentielle d'analyses réglementaires remplirait bien ce rôle d'analyse, car elle surmonterait plusieurs obstacles connus auxquels d'autres modèles se heurtent. Néanmoins, il importe de ne réserver de traitement de faveur ni de donner à priori la préférence à aucune de ces options. Les fonctions d'examen critique représentent une forme particulière de réglementation, ce qui explique que le choix et la conception de cette fonction au Canada doivent être éclairés par une analyse rigoureuse de toutes les options raisonnables.

et d'un effet divers semblent être améliorés qu'un pouvoir de portée limitée même si ce dernier est très puissant. Selon le modèle américain, l'organisme d'examen a le pouvoir, très grand en soi, d'opposer son veto aux ébauches de réglementations mais il n'a par contre pas le pouvoir d'accomplir des choses moins spectaculaires. Depuis 1981, il a examiné 39 381 ébauches de réglementations et a opposé son veto à 426 d'entre elles, ce qui représente 1,08 p. 100 du total. Cela signifie que l'Office of Management and Budget exerce rarement son unique pouvoir dans le cadre de sa fonction d'examen critique.

On peut conférer à l'organisme d'examen un ensemble plus vaste de pouvoirs qu'il pourrait exercer à différents moments dans le processus. Si, par exemple, un organisme d'examen apprend tôt dans le processus qu'une analyse réglementaire a été mal orientée, soit parce que des options importantes ont été exclues ou qu'on s'attend à ce qu'elle repose sur un modèle crucial dont on sait qu'il présente de graves lacunes, il devrait pouvoir intervenir rapidement pour s'assurer que l'on corrige le tir à mi-chemin. La négligence (ou l'incapacité) à corriger des erreurs notoire en temps opportun rend la fonction critique moins efficace, plus conflictuelle ou les deux à la fois.

Une fonction d'examen critique peut également être efficace sans que le pouvoir de prise de décision soit conféré à l'organisme. Ainsi, en Australie, l'Office of Best Practice Regulation ou OBPR [Office des bonnes pratiques de réglementation] ne peut empêcher un organisme de procéder sans que l'analyse réglementaire requise soit effectuée ni opposer son veto à un produit de qualité insuffisante. Par contre, l'OBPR rend publiques ses études de même que la non-conformité d'un organisme. Par opposition, lorsqu'un organisme

autorisé, auquel cas ses ressources limitées ou les risques connus du pouvoir monopolistique peuvent très bien constituer un handicap. Il peut aussi arriver que d'autre gouvernements (c.-à-d., les gouvernements provinciaux) soient autorisés à exercer une fonction critique, ce qui permet d'avoir recours à la discipline de la concurrence pour découvrir des erreurs. Cela aurait en outre l'effet salutaire de tirer profit des ressources de l'organisme d'examen. Enfin, n'importe quel membre du public pourrait être autorisé à exercer une fonction critique. Ce genre de régime garantirait la prise en compte de l'éventail le plus large possible d'intérêts et de compétences.

Indépendamment du modèle retenu, la fonction d'examen critique doit disposer de critères de preuve clairement énoncés afin de déterminer s'il faut corriger une analyse. Le choix du critère de preuve représente un équilibre implicite entre l'erreur de type I et de type II. Dans ce cas, l'erreur de type I (une valeur positive erronée) signifie l'interprétation d'une affirmation, d'une inférence ou d'une conclusion comme erronée alors qu'elle est exacte. L'erreur de type II (une valeur négative erronée) survient lorsqu'une affirmation, une inférence ou une conclusion est interprétée comme exacte alors qu'en réalité, elle est fausse. Il n'existe pas de paires de pondérations à donner aux erreurs de types I et II. En pratique, plus la fonction d'examen critique est tolérante à l'égard de l'erreur de type II, moins on investira d'efforts dans l'examen critique.

## Les pouvoirs

Deuxièmement, les économistes ont accumulé des données d'expérience pratique de la quantification objective des effets. Les praticiens comprennent que l'analyse des avantages et des coûts est censée être positive (c.-à-d., descriptive) et non normative. Par conséquent, la mise au jour d'un parti pris dans une analyse des avantages et des coûts est en soi une preuve de manipulation. Le fait de savoir si elle est plus grande que la précision explicite ou implicite des estimations, ou suffisante pour modifier le classement de l'avantage net des diverses options, détermine l'importance de l'erreur.

## Les critères de preuve et le fardeau de la preuve

Les fonctions critiques doivent être claires quant à savoir sur quoi repose le fardeau de la preuve, ce que cette entité doit faire pour satisfaire aux exigences et quels critères de preuve seront appliqués. Comme point de départ, il est raisonnable d'exiger de l'analyste qu'il suive les pratiques d'analyse des avantages et des coûts généralement acceptées, révèle intégralement toutes ses sources et veille à ce qu'un tiers compétent puisse en reproduire les résultats. De plus, il est également raisonnable de s'attendre à ce qu'une analyse soit le portrait impartial des effets d'une réglementation proposée et que ces effets s'accompagnent de probabilités quant à leur concrétisation ou de descriptions semi-quantitatives bien documentées de leur probabilité. Les phénomènes rares ne doivent pas être décrits comme « probables » et des adjectifs comme « plausible » et « possible » doivent être quantifiés d'une façon qui corresponde à leur perception en général. Satisfaire à ces normes peut se révéler suffisant pour atteindre une faible présumption de validité. L'étape suivante consiste à décider qui est autorisé à exercer la fonction critique. Généralement, seul l'organisme d'examen aura cette



critique peut surmonter en partie cet obstacle en mettant en application des critères d'évaluation bien conçus et reproductibles et en suivant des procédures d'examen transparentes. En dépit des limites de la révision par des pairs, la fonction d'examen critique devra presque assurément reposer sur cet outil dans le cas de questions scientifiques et techniques complexes. S'assurer d'une révision par les pairs véritablement indépendante représente donc une tâche additionnelle pour la fonction critique, que l'on ne peut confier aux organismes de réglementation.

Au fil du temps, les organismes d'examen sont tentés de se vanter de leurs réussites et de minimiser leurs échecs. Cela signifie que, souvent, ils ne s'imposent pas la même discipline analytique qu'ils imposent aux autres. Un signe avant-coureur clé de ce problème est une exigence de faire rapport selon laquelle l'organisme d'examen doit démontrer que ses efforts ont permis d'améliorer qualitativement ou quantitativement l'analyse réglementaire. Confronté à ce genre d'exigence, l'organisme abaissera ses normes. Il serait possible de surmonter cette difficulté en mettant en vigueur une exigence de faire rapport qui récompense l'organisme d'examen qui sera parvenu à exercer une critique efficace.

## Le choix du moment

Une fonction d'examen critique peut intervenir à différents moments dans le processus de réglementation et le choix de ces moments a une forte incidence sur l'efficacité probable du programme. Historiquement, les organismes d'examen ont joué le rôle de garde-barrière en fin de processus. Cela ne peut cependant fonctionner que si l'organisme a le pouvoir d'imposer son veto aux analyses de la réglementation et d'exiger leur révision. Le fait de confier un droit de veto à l'organisme a des conséquences pratiques et politiques importantes. Par

exemple, l'organisme doit être prêt à exercer ce pouvoir, les pouvoirs qu'on n'exerce pas risquent de disparaître. La fonction d'examen critique peut aussi être appliquée au début du processus d'élaboration de la réglementation. Si c'est le cas, elle peut établir un plan de réalisation de l'analyse de la réglementation. Elle ne peut garantir que ce plan sera respecté et certains organismes de réglementation choisiront de ne pas respecter le plan pour des motifs peu convaincants.

## La transparence

Une meilleure solution consiste à établir plusieurs points d'intersection : au début, à la fin et à divers moments entre les deux, avec un ensemble restreint de questions à résoudre à chaque fois et des outils de mise en application différents. Cette approche améliore grandement la souplesse de la fonction critique. Simultanément, cependant, elle élargit la tâche de la fonction et suscite des attentes raisonnables quant à son intervention.

La fonction d'examen critique peut aussi être appliquée au début du processus d'élaboration de la réglementation. Si c'est le cas, elle peut établir un plan de réalisation de l'analyse de la réglementation. Elle ne peut garantir que ce plan sera respecté et certains organismes de réglementation choisiront de ne pas respecter le plan pour des motifs peu convaincants.

## Les critères de révision

Pour être efficace, un programme d'examen critique doit reposer sur des critères permettant de déterminer si une analyse réglementaire est suffisante pour la décision à l'étude. Ces critères doivent être transparents (c.-à-d., connus de tous) et objectivement interprétables (c.-à-d., non sujets aux particularités ou excentricités du réviseur ni aux préférences de quiconque quant aux politiques à adopter). Par conséquent, les critères établissant la « faisabilité » d'une chose et le « caractère approprié » de l'autre conviennent mal à une fonction critique en raison de leur caractère foncièrement subjectif.

Ce sont les critères avantages-coûts qui sont généralement les plus utilisés dans les fonctions d'examen critique et il existe de bonnes raisons à cela. Tout d'abord, il existe des règles externes bien établies pour décider si l'effet d'une réglementation est un coût, un avan-

La transparence technique est essentielle à la réussite de toute fonction critique. Les organismes de réglementation – et toute autre personne qui prépare, en tout ou en partie, une analyse réglementaire qui, selon elle, doit être considérée comme la description la plus objective des effets probables de la réglementation – doivent avoir l'obligation de dévoiler leurs travaux. Les membres compétents du public doivent être en mesure de se servir des mêmes hypothèses, données, modèles et méthodes que les analystes initiaux et d'obtenir essentiellement les mêmes résultats qu'eux.

organismes de réglementation entraînent des améliorations qualitatives proportionnelles aux efforts investis.

## Les critères de mesure de l'efficacité d'une fonction d'examen critique de la réglementation

Concevoir une fonction d'examen critique exige de trouver l'équilibre entre plusieurs objectifs contradictoires; les compromis entre ces objectifs sont inévitable et il n'existe pas d'approche unique ayant préséance sur tous les intérêts marginaux. Dans la présente section, nous proposons plusieurs critères utilisables pour comparer et mettre en contraste des conceptions différentes de la fonction critique.

### Des objectifs bien définis

Afin de maintenir l'efficacité d'une fonction critique sur une longue période, il faut que ses objectifs soient à la fois clairs et stables. Les analystes doivent connaître les attentes à l'avance pour être en mesure de prévoir comment leur travail résistera à l'examen. Le public doit pour sa part avoir confiance en la cohérence, l'équité et la transparence de la fonction. La prévisibilité se trouve améliorée si la fonction critique a également une mission synergique qui vient renforcer la qualité de l'analyse. La réduction des formalités et la qualité de l'information sont de bons exemples de missions synergiques. Les organismes de réglementation exigent toujours plus d'information, à la fois pour effectuer leur analyse réglementaire et pour concevoir des règlements efficaces et efficaces. Laissent à eux-mêmes, cependant, ils ont tendance à chercher à obtenir plus d'information qu'ils n'en ont vraiment besoin (ce qui impose un fardeau au public) et risquent de manquer de la motivation nécessaire pour s'assurer d'une qualité de l'information suffisante

pour le but recherché. Si l'organisme d'examen contrôle aussi la réduction des formalités, cela peut entraîner une réduction de l'information réclamée par le gouvernement tout en améliorant la qualité en vue de l'analyse et de la prise de décision.

### La capacité institutionnelle

La portée, l'ampleur et l'intensité de la fonction d'examen critique déterminent la capacité institutionnelle qu'il faut

bâter pour lui donner la chance d'être efficace. Manifestement, plus la mission est vaste, plus considérables seront les ressources à y consacrer. Ces ressources comprennent le personnel professionnel disposant d'une formation, d'une expertise et d'une expertise égales ou supérieures à celles des organismes dont il révisé le travail. Il faut également avoir accès à des ressources externes au besoin. Cela revêt une importance toute particulière dans le cas des mesures réglementaires complexes relevant de l'information scientifique, technique

ou statistique détaillée. Pour un organisme d'examen, il est impossible d'avoir à son service du personnel disposant de toute l'expertise nécessaire pour assurer

### efficacité.

### est essentiel à son

### à cette expertise

### Néanmoins, l'accès

### tions complexes.

### efficacité de proposi-

### assurer une révision

### tise nécessaire pour

### sant de toute l'exper-

### du personnel dispo-

### d'avoir à son service

### il est impossible

### d'examen critique,

### Pour un organisme

### L'indépendance

rieur du gouvernement.

Nous avons déjà souligné le besoin d'indépendance dans différents contextes

une révision efficace de propositions complexes. Néanmoins, l'accès à cette expertise est essentiel à son efficacité.

Pour de nombreuses raisons, le respect de cette exigence n'est peut-être pas aussi atteignable que voulu. La fonction

haut, mais aussi par rapport à l'ingé- nous soulig- nous

pendance par rapport à l'indé- besoin de plusieurs types d'organismes d'examen ont

analystes à l'emploi d'un Dans la même veine, les des études objectives.

grammes pour fournir des responsables des pro- vent être indépendants effectuée, ses auteurs doi-

la seule analyse qui sera réglementation préparé haut, si l'organisme de nous

sions. Comme nous de nombreuses dimen- tinct puisqu'il présente senter comme critère dis- mais il est utile de le pré-

dépendance dans différents contextes



est restreint aux études présentées et la décision est soigneusement appuyée par de la documentation avant d'être présentée à l'arbitre ultime, soit le ou la ministre.

## Présentation de plusieurs analyses de la réglementation

Les organismes de réglementation ont tendance à contrôler la production des analyses de la réglementation, ce qui crée deux problèmes. Tout d'abord, comme nous l'avons signalé plus haut, les analyses produites par ces organismes ne sont pas indépendantes. Le deuxième problème est propre aux monopoles. Selon les théoriciens de l'économie, les monopoles ont une production trop faible, et souvent de qualité inférieure, à un coût trop élevé.

Le remède aux maux du monopole est la concurrence. Il est possible de concevoir une fonction d'examen critique de façon à ce que divers groupes d'intérêts préparent plusieurs analyses, chacune des équipes d'analystes servant implicitement de groupe de révision par les pairs du travail des autres. Ce creuset de révision dans un esprit critique efficace, rigoureux et extrêmement motivé pousse chacune des équipes à effectuer le meilleur travail possible. Le personnel de l'organisme d'examen effectue alors la révision de différentes descriptions des effets de la réglementation et décide laquelle des analyses est la meilleure.

Ce genre d'approche offre des avantages secondaires importants pour l'organisme d'examen. Par exemple, il n'aurait plus besoin de consacrer ses ressources limitées à la formation aux méthodes analytiques. La concurrence incitera les analystes de la réglementation en puissance à apprendre leur art sans bénéficier de subventions. Cela est particulièrement utile étant donné qu'on peut douter que la formation des analystes des

participation plus efficace, puisqu'ils peuvent effectuer leurs propres études parallèles. De la même façon, en établissant un processus de plan directeur avec participation de bonne foi du public, on peut avoir recours aux ressources du secteur privé que non gouvernemental pour informer les décideurs et améliorer la qualité de l'étude de la réglementation.

Un processus de plan directeur de bonne foi peut déboucher sur des études de la réglementation différentes, dont une seule provient de l'organisme de réglementation. D'où le besoin d'un processus transparent de sélection de la « meilleure » analyse sur la base de critères bien définis et d'un processus de résolution des conflits. Le seul critère de classement stable est l'objectivité, c'est-à-dire l'absence de préférences entraînées ou implicites quant aux politiques à adopter. Les autres critères risquent de stimuler des comportements stratégiques indésirables.

On ne peut s'attendre d'un organisme de réglementation qu'il choisisse l'étude de la réglementation la plus objective (c.-à-d., la plus neutre sur le plan des politiques) car il y a un conflit d'intérêts manifeste. Par conséquent, les processus de plans directeurs devaient sans doute confier l'autorité de choisir la meilleure étude à l'organisme d'examen. Si l'on craint que se produisent des négociations ou des jeux de coulisser derrière des portes closes, il est possible de l'éviter en ayant recours à une procédure appelée arbitrage de l'offre finale, selon laquelle le choix de la « meilleure » étude

des responsables des programmes notamment pour leur promotion et leur avancement. Ils doivent relever de membranes de la haute direction sans édulcoration ni censure. À défaut de quoi, il faudra mettre en place une fonction énergétique d'examen critique pour obtenir une qualité d'analyse minimale de la part d'un organisme.

## Les plans directeurs de l'analyse réglementaire

Une réforme des processus déjà mise en place à quelques reprises porte sur la préparation à l'avance de plans directeurs de l'analyse réglementaire. Il ne s'agit pas de descriptions en profondeur des objectifs que vise un organisme en imposant une réglementation mais plutôt de plans soulignant de quelle

manière se déroulera l'analyse de la réglementation avant la prise de décisions. Comme dans le cas des processus commentaires du public en général, l'efficacité de cette procédure dépend du fait que ces plans représentent de véritables efforts pour éclairer le processus d'analyse et sont perçus comme tels. Un plan directeur doit établir clairement quelles données analytiques seront utilisées ou, si le but consiste à obtenir de nouvelles données et méthodes, à quels critères précis on aura recours pour faire un choix entre des données et méthodes en concurrence. L'organisme d'examen peut surveiller et, si nécessaire, imposer la conformité. Les plans directeurs permettent aussi aux organismes ayant différents points de vue d'avoir une

Concevoir une fonction d'examen critique exige de trouver l'équilibre entre plusieurs objectifs (ils sont contradictoires) les compromis entre ces objectifs sont inévitables et il n'existe pas d'approche unique ayant préséance sur tous les intérêts marginaux.

de primauté de l'organisme. Par exemple, un organisme dont la mission officielle comporte la réglementation d'un domaine dans lequel les marchés se comportent assez bien apprendra que l'analyse des avantages et des coûts révèle le manque d'efficacité et, donc, le caractère indésirable du point de vue de l'économie normative, de ses propositions de réglementation. Un exemple opportun est celui de la réglementation des caractéristiques superflues des fruits et légumes, que l'Union européenne vient tout juste de rescinder (en partie seulement cependant; on estime que les trois quarts de tous les fruits et légumes européens feront toujours l'objet d'une poignée de restrictions restantes). La réglementation ne peut tout simplement pas donner des avantages sociaux nets en l'absence de déficiences du marché et rien n'indique que les marchés ne sont pas en mesure d'établir efficacement le prix des fruits et des légumes en tenant compte de la diversité des formes, des tailles et de caractéristiques semblables. Les organismes auxquels la loi impose de réglementer les situations où il n'y a pas de déficiences du marché ne se soumettront pas volontairement à la discipline imposée par une fonction critique.

**Révision par les pairs**

On a souvent recours à la révision par les pairs dans des milieux savants et elle est devenue populaire au sein des gouvernements. Cette pratique peut, quoi qu'elle ne le fasse généralement pas, remplir le rôle de la fonction critique également. Les organismes y ont moins recours pour améliorer la qualité que pour ratifier leur travail. La révision par les pairs au gouvernement donne donc lieu à de graves conflits d'intérêts. Les organismes qui y ont recours peuvent choisir les réviseurs, rédiger les directives données à ces derniers, décider du moment et du type de leurs rencontres et même contrôler leurs discussions. Les organismes ont tout intérêt à choisir des réviseurs affables, soucieux d'établir ou de maintenir des rapports cordiaux (ou financièrement rentables) et peu disposés à créer des ennuis. Les directives données aux réviseurs peuvent être rédigées de manière à éviter les questions les plus pertinentes ou restreindre les révisions à un domaine délimité avec soin. Quand c'est le cas, la révision par les pairs au sein des gouvernements ne peut jouer le rôle d'une fonction critique que si les experts ne tiennent pas compte des directives et refusent de ratifier le travail. C'est rarement le cas et il faut pour cela que les réviseurs possèdent une grande confiance en eux et une extraordinaire détermination.

Dans les milieux savants, on a surtout recours à la révision par les pairs pour attribuer des bourses ou distribuer les pages dans une revue dotée d'un comité de lecture. La tâche consiste à choisir le « meilleur » de ce dont on dispose, non de ratifier quoi que ce soit. Les pairs réviseurs en milieux savants n'ont un pouvoir de ratification que dans un contexte seulement : la décision d'approuver une défense de thèse de doctorat débouchant sur l'attribution d'un Ph.D.

La révision par les pairs présente également des défauts potentiellement plus graves. Tout d'abord, lorsque (et peut-être surtout) même les experts les meilleurs et les plus éclairés sont rassemblés, il devient impossible de restreindre leur analyse aux domaines dans lesquels ils sont experts. Les scientifiques ont tendance à penser que leur expertise peut facilement se transférer à d'autres domaines. Deuxièmement, les scientifiques peuvent tirer parti de leur position de réviseurs techniques pour défendre certaines politiques publiques. Il y a plusieurs façons de gérer cette situation, par exemple leur donner pour directive précise de ne pas se mêler des débats sur des politiques et des domaines techniques en

de ne tenir aucun compte de leur travail s'ils ne se plient pas à cette règle. La responsabilité du choix des membres des groupes d'experts et de la rédaction de leurs directives peut être confiée à une entité totalement indépendante. Les groupes d'experts peuvent être constitués de personnes affichant un grand scepticisme et la volonté et la motivation de remettre néanmoins impossible de résoudre certains de ces problèmes peu importants et les efforts investis. Souvent, les scientifiques seront portés à croire que leurs propres recherches sont les plus importantes dans n'importe quel champ d'étude et à se montrer critiques face aux travaux de leurs rivaux professionnels. Ils seront aussi tentés par le prestige qui accompagne la présence à des comités de personnes très distinguées et par le pouvoir que confère l'autorité, même pour une courte période.

**La distinction entre les fonctions liées aux politiques et les fonctions analytiques au sein des organismes**

En général, le personnel employé ou subventionné à titre contractuel par l'organisme de réglementation effectue également son analyse réglementaire. Ses membres relèvent des responsables des programmes de l'organisme et sont soumis à des pressions en vue de produire des analyses à l'appui des objectifs des programmes. Même en l'absence de pressions évidentes, les analystes des organismes de réglementation ont tendance à partager les perspectives, les objectifs et la culture de ces derniers. C'est pourquoi, l'obtention d'analyses de la réglementation indépendantes provenant des organismes eux-mêmes exige au moins que les analystes forment un groupe hiérarchiquement distinct



principes de réglementation du président Reagan. Les données indiquent aussi que George W. Bush n'a pas dévié fortement des principes ni de la pratique de l'administration Clinton. L'Office of Management and Budget a opposé son veto à une poignée d'ébauches de règlements en 2001 et 2002, sans doute dans le but d'établir son autorité mais a rarement exercé cette autorité depuis lors. En moyenne, un pour cent environ de toutes les mesures réglementaires que l'OIRA a étudiées ont donné lieu à un veto et un pourcentage inconnu (mais presque certainement très réduit) de celles qui ont été ainsi bloquées l'ont été en raison de défauts dans l'analyse réglementaire. Quoi qu'il en soit, ces données ne viennent pas confirmer l'idée reçue selon laquelle la fonction d'examen critique aux États-Unis a été presque aussi efficace que ses promoteurs l'ont prétendu. Même si elle a été efficace au début des années 1980, il est difficile de soutenir de manière crédible qu'elle l'est encore aujourd'hui.

## Modèles concurrentiels de programmes d'examen critique des analyses réglementaires

À côté d'un examen centralisé comme celui qui prévaut dans le modèle américain, tout un éventail de modèles de fonctions critiques ont été soit mis à l'épreuve soit proposés avec plus ou moins de succès. Ces autres modèles sont décrits dans la section suivante, qui se termine par un modèle – la pression concurrentielle d'études réglementaires – qui n'a pas encore été mis à l'épreuve dans quelque pays que ce soit.

**Avis public et commentaires du public**

D'abord d'avant l'ère de l'étude réglementaire explicite, le premier modèle de fonction d'examen critique était le dispositif procédural qui consistait à exiger un avis public des propositions de mesures réglementaires et à demander les commentaires du public. Chacun des pays de l'OCDE dispose de son système d'avis public et de commentaires du public. On peut souvent trouver dans la *Gazette du Canada* des résumés d'études d'impact de la réglementation (REIR), qui renferment un grand nombre de renseignements d'intérêt public utiles. Il manque cependant aux procédures d'avis et de commentaires aussi bien une exigence de contrôle de la qualité en ce qui a trait aux analyses réglementaires qu'une manière indépendante d'exiger que les analyses soient qualitativement bien perçues ou quantitativement objectives, c'est-à-dire, dépourvues de partialité due aux préférences des auteurs en matière de politiques (les résultats qu'ils *veulent absolument* voir atteints) ou de vœux pieux (ceux qu'ils *souhaitent* voir atteints).

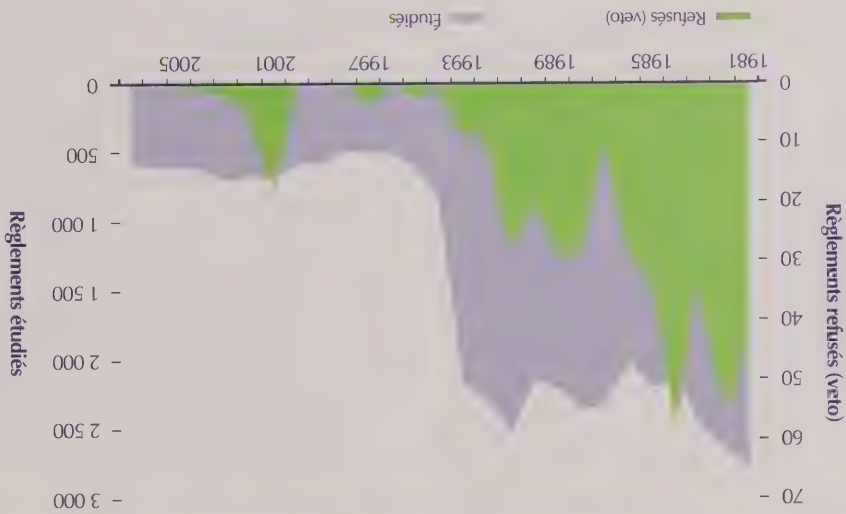
Les commentaires du public étant généralement d'ordre consultatif, le nombre de ceux qui souhaitent consacrer des ressources à les fournir est fortement restreint. L'effort est fonction du degré auquel on estime que l'organisme peut être amené à changer d'idée ou obligé de le faire par un tribunal. Le processus de commentaires du public atteint son maximum de dynamisme et d'efficacité quand la législation qui autorise un organisme à réglementer impose aussi des règles strictes pour exiger qu'il justifie ses décisions sur la base d'une analyse réglementaire effectuée par du personnel compétent. Réciproquement, les commentaires du public ont peu d'impact à titre de fonction critique quand un organisme a toute latitude dans sa prise de décision.

**Persuasion et cooptation**

Il est toujours possible de trouver des exemples dans lesquels les intérêts de l'organisme, tels qu'il les perçoit, bénéficient d'une meilleure analyse réglementaire. Dans ces cas, l'absence ou la faible qualité de l'analyse réglementaire découle d'une expertise technique insuffisante ou d'une culture bureaucratique résistante. Il est possible de surmonter ces obstacles grâce à des efforts constants, souvent pénibles, de renforcement de capacité, d'éducation et de formation, et de réforme organisationnelle. Un organisme de réglementation qui bénéficie d'une bonne analyse réglementaire tirera des enseignements de ses expériences et, lentement mais sûrement, en deviendra le promoteur.

La persuasion et la coopération ne peuvent cependant réussir si une meilleure analyse réglementaire vient saper les objectifs ou les prétentions d'autorité et

**Figure 1** Règlements étudiés et rejetés (droit de veto) par l'OIRA, 1981-2007



Source : <<http://www.reginfo.gov/public/do/eoHistoricReport>>

De la même façon, l'organisme chargé de la fonction d'examen critique cherchera à persuader les organismes de règlementation de faire de l'adhésion à l'éthique de l'analyse réglementaire neutre une condition préalable à leur prise de décision en matière de réglementation.

C'est pourquoi la conception d'une fonction efficace d'examen critique peut être complexe. Souvent, les nombreux éléments à envisager supposent des compromis tels que la proposition d'un objectif exige d'en sacrifier un autre en partie. On peut tirer un enseignement encore plus important de l'expérience des autres : il est beaucoup plus facile de concevoir une fonction d'examen critique qui ne servira à rien que d'en concevoir une qui va fonctionner.

Ce bref article cerne plusieurs principes importants dont il faut tenir compte dans la conception d'une fonction d'examen critique. Nous commençons par un bref aperçu de l'expérience des États-Unis, mais peut-être d'un point de vue inhabituellement critique. Dans les

sections qui suivent, nous proposons des modèles concurrents de conception de ce genre de fonction et expliquons de quelle manière on peut s'attendre qu'ils fonctionnent.

## La fonction d'examen critique aux États-Unis

Aux États-Unis, la première fonction d'examen critique a été instituée avec la *Federal Reports Act* [loi fédérale sur les rapports] de 1942 qui, pour la première fois, exigeait du gouvernement qu'il réduise au minimum le fardeau public de ses activités de collecte d'information. Les charges administratives ne s'en accrurent pas moins, ce qui entraîna l'approbation bipartite de la *Paperwork Reduction Act* [loi de réduction des formalités administratives] de 1980. Le nouvel Office of Information and Regulatory Affairs (OIRA) fut créé au sein du Office of Management and Budget des États-Unis, avec pour mandat de gérer et de contrôler ces charges.

Pendant ce temps, le White House Council on Wage and Price Stability, ou COWPS [Conseil de la Maison-Blanche sur la stabilité des salaires et des prix], créé par le Congrès en 1974, était chargé de restaurer la productivité des États-Unis et de contrôler l'inflation. Les fonctions de ce conseil évoluèrent au fil du temps et, sous l'administration Carter, elles furent étendues à l'examen d'un petit nombre de mesures de réglementation importantes avant leur promulgation. Le Conseil déposait des commentaires publics concernant les avantages, les coûts et d'autres impacts mais n'avait aucun autre pouvoir de

remise en question.

En 1981, le président Reagan transféra cette fonction au nouvel OIRA et créa en son sein une fonction explicite d'examen critique avec droit de veto. Cela eut pour effet de transformer presque du jour au lendemain la pratique réglementaire aux États-Unis. L'OIRA devenait soudainement responsable de l'examen de plusieurs milliers de règlements, comme l'illustre la ligne supérieure du graphique ci-dessous (échelle de droite). À un certain moment, l'OIRA comparait un effectif de plus de 80 personnes. Très tôt, le nouveau bureau se servit aussi de son droit de veto de façon suffisamment régulière pour qu'on le prenne au sérieux, comme l'indique la ligne inférieure du graphique (échelle de gauche).

Si l'opposition d'un veto aux versions préliminaires de règlements est interdite comme un indicateur de réussite, celle-ci n'a pas duré longtemps. Le nombre de veto a chuté rapidement pendant le deuxième mandat du président Reagan, s'est stabilisé pendant le mandat de George H.W. Bush et est tombé à zéro pendant celui du président Clinton. Ce dernier a singulièrement rétréci l'ampleur de l'organisme d'examen en supprimant quelque 90 p. 100 de sa charge de travail tout en conservant en grande partie les critères d'évaluation et les



Enfin, le gouvernement du Canada a entrepris un programme de rationalisation de ses procédures réglementaires. Établi dans le cadre de la *Directive du Cabinet sur la rationalisation de la réglementation* (DCRR), ce nouveau programme est tout à la fois une nouvelle façon de rediger les règlements et une nouvelle manière de réfléchir à l'ensemble du processus réglementaire. La pièce maîtresse de la DCRR est l'analyse d'impact de la réglementation. L'idée générale est que le gouvernement peut et devrait utiliser des outils analytiques jouissant d'un grand respect et d'utilisation courante, comme l'analyse des avantages et des coûts, pour examiner à l'avance les conséquences probables d'un éventail d'options et se servir de cette analyse pour informer tant le gouvernement que la population canadienne avant de prendre des décisions

# Principes d'une fonction efficace d'examen critique des études d'impact de la réglementation

importantes. La DCRR renferme un système permettant de s'assurer que l'analyse réglementaire satisfait à des normes strictes de transparence, de qualité, de rigueur analytique et d'utilité pour la prise de décision. La conception du système de supervision standardisée, appelé « fonction d'examen critique » au Canada

Les fonctions d'examen critique sont en elles-mêmes de nature réglementaire, de sorte qu'en pratique, elles peuvent être désagréables. Si, normalement, les organismes gouvernementaux réglementent les autres, ils sont eux-mêmes les parties réglementées d'une fonction d'examen critique. Nombre des enseignements tirés sur la conception réglementaire, bien décrits dans la DCRR mais qui visent le secteur privé, s'appliquent aussi à la relation entre les fonctions d'examen critique et les organismes de réglementation. Lorsqu'ils réglementent le secteur privé, ces organismes s'efforcent souvent de les persuader d'accepter leurs normes.

et dans certains autres pays de l'OCDE, doit encore être déterminée. Le présent article aborde les options qui ont été essayées ou proposées ailleurs dans le monde et contribue à orienter une analyse crédible de ces options.

Si l'on ne peut atteindre les avantages de la DCRR sans fonction efficace d'examen critique, la conception et la mise en application de cette fonction ne sont pas chose facile. La nécessité des fonctions critiques s'impose en raison du fait qu'il y a souvent désaccord entre les organismes de réglementation et les parties prenantes sur certaines questions fondamentales, comme le choix des instruments et les objectifs de la réglementation, qui ont des répercussions sur l'analyse réglementaire. En cas de désaccord, la fonction critique devrait être perçue comme un processus neutre de résolution de questions techniques et de clarification des différences qui demeurent dans les politiques. Toutes les parties prenantes ne percevront pas toujours les résultats comme équitables mais une fonction efficace d'examen critique peut avoir pour effet une impartialité du processus réglementaire au-dessus des préjugés et du favoritisme, ce qui rend moins préoccupants les résultats individuels malheureux de la réglementation.

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Le 11 mars 2009, le PRP et le Secrétariat du Conseil du Trésor du Canada ont été l'hôte d'un atelier d'évaluation intégré sur l'étude d'impact de la réglementation à l'intention des gestionnaires et des analyses du gouvernement fédéral. L'atelier visait à favoriser le développement des capacités des analystes des ministères et des agences qui participent au processus de réglementation. L'atelier a été bien accueilli et l'on a pu y voir plus de 35 participants de 12 différents ministères et agences.

Les participants à l'atelier ont travaillé à partir d'une hypothèse par laquelle ils examinaient une proposition de politique basée sur une approche « verte » « répondre aux exigences de réglementation visant à réduire les débordements des égouts. Ils avaient été séparés en petits groupes



nal ou quinquennal, en complètement à son actuel cycle triennal de planification budgétaire des dépenses.

Toutefois, jusqu'à maintenant, les rapports et annonces britanniques demeurent vagues quant à la manière d'établir un programme stratégique à l'échelle du gouvernement et à celle de chaque ministère et de sa famille d'organismes de réglementation. L'incertitude demeure également quant aux critères autres que les coûts pour le secteur privé et les avantages connexes sur lesquels reposera un tel programme. Plus le débat sur l'établissement d'un programme s'ouvrira, au cours des prochains mois, au-delà d'un mouvement politique mené par les milieux d'affaires, plus ces critères seront susceptibles de se généraliser.

Notre appel à un programme de réglementation stratégique pour le Canada ne contient aucune précision sur un budget de réglementation et, d'autre part, notre analyse de 2007 qui plaide pour l'adoption d'un programme de réglementation par le gouvernement du Canada. Nous reconnaissons cependant qu'une certaine forme de structure de contrôle des rapports coûts-avantages et risques-avantages sera un élément essentiel de ce programme stratégique.

Notre analyse propose un programme de réglementation stratégique annuel qui servira de complément à la planification annuelle des revenus et dépenses du gouvernement, mais devra faire l'objet d'un débat public distinct inscrit au calendrier parlementaire. Cette analyse est très explicite quant aux larges bases démocratiques et intergouvernementales de l'argumentation en faveur d'un programme de réglementation stratégique et des critères qui devront être établis. Mais toute avancée du gouvernement fédéral dans l'établissement d'un budget et d'un programme de réglementation devra comporter d'autres analyses et débats sur les équivalents canadiens du champ d'application, de la couverture et des méthodologies abordées dans le récent

mélange de motifs politiques et économiques et opportunistes de la part d'acteurs politiques et économiques du gouvernement et de l'extérieur, désireux de tirer parti des nouvelles perspectives.

## Conclusions

Grâce à l'engagement récent du gouvernement britannique, l'idée d'un budget de réglementation et d'un programme de réglementation stratégique se rapproche enfin du stade de la mise en œuvre. Cependant, la convergence entre, d'une part, la décision britannique en 2008 de s'engager dans un budget de réglementation et, d'autre part, notre analyse de 2007 qui plaide pour l'adoption d'un programme de réglementation par le gouvernement du Canada, laisse supposer la nécessité de mener des discussions et analyses complémentaires.

La décision du Royaume-Uni porte principalement sur un budget des nouveaux règlements et de leurs coûts pour le secteur privé, mais elle est tout autant liée aux avantages qu'ils procurent. Elle est née d'une perspective de développement de l'entreprise au sein du principal ministère à vocation industrielle, mais avec l'appui du premier ministre britannique. Bien que le gouvernement reconnaisse dans sa décision la difficulté de rassembler les estimations des coûts et avantages de la réglementation et de concevoir l'ensemble du système, il est résolu à aller de l'avant. Pour l'heure, il semble que le budget de réglementation sera non pas annuel, mais plutôt triennal.

raisons (nous recommandons un processus autonome et distinct, du moins au début).

Les arguments justifiant l'attribution d'un niveau de priorité élevé à une nouvelle position de règlement et son passage à l'étape de l'adoption refléteront sans doute la même gamme de motifs, de valeurs et d'idées que les arguments à l'appui des propositions de nouveaux revenus et dépenses. Le ministre des Finances et le premier ministre contrôleront l'établissement des priorités fiscales, alors que les nouvelles dépenses, même contrôlées de près par quelques ministres, impliqueront effectivement un processus officiel ou officieux de soumissions de la part de tous les ministres.

Les propositions de nouveaux règlements proviendraient elles aussi d'un grand nombre de ministres.

Les motifs et les critères comprendraient une évaluation des risques et de divers coûts de la réglementation, ainsi que le niveau de contrainte perçu et réel. Entre-temps, chaque année en ligne de compte d'autres critères en lien avec les pressions régionales, nationales ou les pressions régionales, de même que diverses valeurs liées à la santé, à la sécurité, à l'environnement et au développement durable.

Dans un Cabinet complexe où plus de trente ministres représentent une fédération, les critères permettant d'obtenir une place privilégiée dans un programme de réglementation seront aussi variés que dans le domaine des revenus et dépenses. L'élaboration d'un programme met inévitablement en jeu un

L'élaboration d'un programme met inévitablement en jeu un mélange de motifs politiques et économiques, mais aussi des comportements tactiques et opportunistes de la part d'acteurs politiques et économiques, désireux de tirer parti des nouvelles perspectives.

dépenses. L'établissement du programme de revenus et de dépenses du gouvernement se fait dans le cadre du processus budgétaire annuel et du discours du Trône. Ce processus survient tous les 18 mois environ, à la discrétion du premier ministre. Le discours du Trône peut assurément inclure des priorités en matière de réglementation (tout comme un budget peut annoncer des initiatives réglementaires), mais ils ne sont pas du tout conçus pour couvrir l'ensemble des priorités réglementaires en tant que tel.

Il y a bien sûr un argument démocratique intrinsèque à établir un programme stratégique officiel qui pourra faire l'objet d'un examen minutieux et de critiques. Un programme et un budget de réglementation seraient un bon complément au plan économique *Avantage Canada* du gouvernement fédéral (Canada, Ministère des Finances, 2006) et à sa stratégie sur les sciences et la technologie (Canada, Industrie Canada, 2007). Ils pourraient également pallier certaines des lacunes et nécessités de la réglementation décelées par le Comité permanent des finances de la Chambre des communes (2006). Enfin, ils joueraient un rôle crucial dans nombre de domaines de la politique étrangère et sociale où la réglementation est souvent l'instrument de choix.

L'analyse ci-dessus soulève deux questions interdépendantes quant à l'idée d'un programme de réglementation. Premièrement, le gouvernement fédéral dispose-t-il déjà d'une certaine forme de programme de réglementation qui n'est tout simplement pas apparente au commun des mortels? Deuxièmement, à quoi ressemblerait et comment fonctionnerait un programme de réglementation complet et démocratique?

La première question mérite une réponse, car s'il existe un tel système et qu'il fonctionne bien, il n'est guère utile de continuer de défendre l'idée d'un

programme de réglementation. Certains éléments d'un programme de réglementation annuel offrant une réponse partielle à cette question sont déjà en place :

- l'établissement d'un plan d'action dans les ministères ayant des responsabilités réglementaires de nature scientifique de même qu'au sein de certains autres organismes de réglementation;
- les rapports ministériels sur les plans et priorités qui sont déposés au cours du processus annuel de prévision des dépenses;
- le discours du Trône et les priorités connexes à l'égard des projets de loi inscrits au *Feuilletton* de la Chambre des communes;
- le processus expérimental de « triage » lancé récemment, par lequel les ministères sont invités à préciser le niveau de priorité (élevé, moyen ou faible) de chaque règlement, auquel on attribue par la suite le niveau d'importance et de soutien en ressources pertinent (Doern, 2007, chapitres 5 et 6).

Il est certes possible de développer ces exemples de dynamique et de processus d'établissement de programme qui, pour l'heure, sont partiels, officiels et imprécis. Toutefois, ils ne constituent pas un cadre ou un processus de réglementation stratégique à part entière. Ce sont plutôt des raisonnements, du point de vue de l'observateur externe qui se demande pourquoi les gouvernements réglementent certains secteurs plutôt que d'autres, sur une base annuelle ou pluriannuelle. En l'occurrence, les députés font partie de ces observateurs externes.

Ce processus est sans aucun doute beaucoup moins explicite ou transparent que les prévisions de revenus et de dépenses ou la procédure globale du discours du Trône. Ni l'un ni l'autre de ces processus

n'est parfait, mais chacun repose sur une vision selon laquelle il est important d'établir un programme stratégique d'une façon raisonnablement transparente.

Ceci nous amène à nous poser une question : à quoi ressemblerait un programme de réglementation annuel? Un programme complet, transparent et stratégique qui mette en question, fixe et annonce les priorités fédérales en matière de réglementation devrait comporter plusieurs composantes (dont certaines seraient similaires aux budgets des revenus et dépenses et d'autres en diffèrent en raison du caractère différent de la réglementation elle-même) :

- un processus par lequel tous les nouveaux règlements proposés par l'ensemble des ministères et organismes fédéraux seraient compilés annuellement, le Cabinet ayant ensuite la charge d'établir les priorités;
- la détermination des nouveaux « textes » (lois et règlements) à proposer;
- une disposition et des procédures pour traiter les contingences et les urgences nécessitant l'adoption de nouveaux règlements (comme on en trouve dans un budget des revenus et dépenses);
- une compréhension des nombreux critères qui pourraient servir à distinguer le niveau de priorité des nouveaux règlements proposés;
- un « énoncé de programme de réglementation » ministériel annuel et un débat à la Chambre des communes;
- l'examen de la question à savoir si un tel processus de planification devrait être distinct et autonome, ou s'unir au processus actuel de planification des revenus et dépenses, soit afin d'éviter les chevauchements sur des aspects comme la consultation des intervenants, soit pour d'autres



Il convient de souligner qu'un programme annuel de réglementation ne résoudrait pas tous les problèmes de coordination, pas plus que les problèmes de coordination des impôts et des dépenses ne sont entièrement résolus par la planification annuelle des revenus et dépenses ou par les processus budgétaires que nous proposons ci-après. La réglementation représente au moins le tiers de l'action gouvernementale, au sens où les réglementations, les impôts et les dépenses sont trois des principaux instruments de l'action politique. Cependant, des programmes mieux conçus et transparents où l'on aborde et fixe les priorités ne servent pas uniquement d'orientation ou de point d'ancrage à l'action politique.

La difficulté de l'approche actuelle réside dans le niveau de complexité d'une portion croissante des règlements. Lorsque de nouveaux règlements sont proposés et que les règlements existants sont mis en œuvre, des influences mutuelles s'exercent entre une pluralité d'organismes de réglementation et un nombre indéfini d'entreprises, de consommateurs et de citoyens. Bref, la multiplication des règlements ayant chacun son cycle de conception et de mise en œuvre et son cycle de vie constitue de plus en plus la norme. Par exemple, l'en semble des processus de réglementation des nouveaux médicaments met en jeu la réglementation fédérale sur la propriété intellectuelle (approbation des demandes de brevets), l'approbation des essais cliniques, l'évaluation et l'approbation finale de l'innocuité et de l'efficacité du médicament, ainsi que l'approbation finale du financement dans le cadre des systèmes provinciaux de listes de médicaments couverts par l'assurance-maladie.

Le présent appel à un programme de réglementation plus explicite est également, en partie, un plaidoyer pour la rationalité fondamentale en matière de gouvernance de la réglementation, en établissant en matière d'impôts et de

ponsabilité cruciale des gouvernements démocratiques – surtout dans un contexte international marqué par l'interdépendance et la mondialisation.

Le système de réglementation actuel du gouvernement fédéral ne comporte pas

de moyen évident ou transparent de déterminer, de la même façon, générale, quels domaines de réglementation sont les plus importants afin de pouvoir en disposer de façon réfléchie et dans une perspective internationale, pour ensuite mettre en œuvre les nouveaux règlements avec tout le soutien scientifique et technologique requis et avec les ressources humaines et financières nécessaires.

Le gouvernement fédéral n'a pas l'habitude de présenter au Parlement ou à la population des données minimales systématiques, ne serait-ce que sur le taux annuel de croissance (ou de repli) du nombre de nouveaux règlements ou des coûts administratifs qu'assument le gouvernement et les contribuables. Bien sûr, la nature des données supplémentaires nécessaires demeure incertaine, ce qui justifie la pertinence de mettre sur pied une commission d'examen de la réglementation et du risque (*ibid.*, chapitre 6).

Cependant, il n'est pas besoin d'attendre de posséder des données réglementaires parfaites pour établir un programme de réglementation. La planification des impôts et des dépenses publiques a débuté et se poursuit toujours sans données complètes, mais les besoins associés à l'établissement des programmes subventionnés suscitent des améliorations sur les plans de l'acquisition, de l'analyse et des théories et modes de discussion et d'interprétation des données.

## Le fait que l'approche fédérale actuelle repose beaucoup trop sur le principe « un règlement à la fois » est au cœur de la question des « améliorations potentielles ».

remient consentis aux États-Unis pour les et de discussions menés dans les milieux universitaires (White, 1981; Thompson, 1997; Kiewiet, 2006).

Le Better Regulation Task Force du Royaume-Uni a également tenu compte du modèle néerlandais de réduction des fardeaux administratifs. Il s'agit, pour l'essentiel, d'un « budget de réglementation appliqué aux coûts administratifs » pour l'Etat (Royaume-Uni, Better Regulation Task Force, 2005, p. 46). Le BRTF souligne aussi que le Royaume-Uni devrait adopter cette approche, puisqu'elle constituerait une expérience précieuse en administration des budgets de réglementation. La recherche canadienne a pour sa part décelé des lacunes quant à la prise de conscience systémique de l'ensemble des coûts administratifs de base qu'assument le gouvernement et d'autres secuteurs (Mdayisenga et Blais, 2005). De plus, selon certaines prévisions, les coûts trans-mis au secteur privé seraient de 15 à 20 fois plus importants que ces coûts directs pour le gouvernement, ce qui est énorme (James, 1998).

## Un programme de réglementation au Canada

Afin d'analyser le comportement du gouvernement fédéral en matière de réglementation, il convient d'examiner les éléments suivants :

- la réalité actuelle des régimes de réglementation complexes (caractérisés par une pluralité de règles et d'organismes de réglementation en interaction) plutôt que des organismes de réglementation indépendants agissant de manière autonome;
- l'évolution rapide de la technologie et des connaissances;

- la nécessité de mieux gérer et classer les risques et les perspectives en matière de risques et d'avantages;
- la nature changeante de la réglementation gouvernementale fondée sur la science (Doern, 2007).

En raison des interactions entre ces changements, il est très difficile pour les gouvernements de gérer leurs responsabilités en matière de réglementation. À la lumière du chevauchement de ces pressions et changements, je proposerai ci-après des améliorations à l'approche fédérale actuelle en matière de réglementation. Je mettrai ensuite en évidence la nécessité d'un programme annuel de réglementation stratégique en ce qui a trait aux *nouveaux* règlements.

Le fait que l'approche fédérale actuelle repose beaucoup trop sur le principe « un règlement à la fois » est au cœur de la question des « améliorations potentielles ». Cette approche caractérise essentiellement la « politique de réglementation ». Or, une telle approche ne permet pas d'évaluer adéquatement les nouveaux règlements comparativement à ceux qui ont déjà été adoptés par les ministères et organismes fédéraux et par d'autres ordres de gouvernement. Elle s'applique mal à l'interactivité qui caractérise le cadre réglementaire, notamment quant aux priorités et aux profils de risque à l'échelle de tout le gouvernement. Elle ne répond donc pas aux exigences de la réglementation à l'ère de l'innovation.

La politique de réglementation fédérale a évolué depuis 1986, alors que les organismes de réglementation étaient tenus de consulter les parties concernées et le public, de mener des EIR et de publier une proposition de règlement. D'autres critères décisionnels se sont ajoutés par la suite, pour déterminer par exemple si la proposition offrait des avantages nets à la société canadienne, allégeait le fardeau réglementaire, favorisait la coopération et la coordination intergouvernementales,

répondait aux normes de gestion des processus réglementaires et correspondait aux directives du Cabinet. Certes, la politique fait état de la coordination intergouvernementale et interministérielle et reconnaît du même souffle certains enjeux complexes propres au régime de réglementation, mais ces enjeux n'ont ni l'appui adéquat d'un examen interministériel régulier, ni le soutien des institutions.

Même en 2007, dans la Directive du Cabinet fédéral sur la rationalisation de la réglementation, la décision visant à ajouter à cette politique une approche basée sur le cycle de vie, bien que très souhaitable, reflète encore largement l'approche « un nouveau règlement à la fois ». Selon l'approche fondée sur le cycle de vie, la politique s'appliquera, au-delà des stades de la proposition de règlement et de l'approbation, à toutes les étapes subséquentes, soit la mise en application, la conformité et l'évaluation.

Serait-il concevable que le gouvernement fédéral gère son système d'imposition et de dépenses comme il gère son système de réglementation? Se contenterait-il de dépenses où chaque fois que l'on s'apprêterait à prendre une nouvelle décision en matière de fiscalité ou de dépenses, il faudrait s'assurer de procéder à une étude d'impact, considérer les solutions de rechange (un règlement, par exemple), utiliser une approche fondée sur le cycle de vie, consulter la population canadienne, etc.?

Une telle idée est impensable, car les gouvernements savent qu'ils doivent disposer d'un plan annuel ou pluriannuel pour les deux côtés de la médaille fiscale. Les gouvernements rassemblent aussi les données requises pour documenter l'état-blissement de leurs priorités en matière de dépenses et d'impôts. Ce type de programmation n'est évidemment pas parfait, mais il est beaucoup plus élaboré et est considéré comme une macrores-



Fait essentiel, la portée de ce qu'on appelle « réglementation » (les lois, les règlements au sens strict, les lignes directrices et les codes ou normes) soulève la controverse. Jusqu'ici, le Royaume-Uni a choisi d'inclure les lois et règlements, mais non les codes et les normes (*ibid.*, p. 26). Or, ces choix ouvrent inévitablement la porte aux manœuvres équivoques plus haut.

En ce qui concerne les méthodologies des budgets de réglementation, les difficultés portent principalement sur la façon d'évaluer les approches en matière d'évaluation des coûts et avantages et, bien entendu, sur la disponibilité et la transparence des estimations et données relatives à ces coûts et avantages. Le BRTF avait recommandé de faire reposer le régime sur les coûts cumulatifs de la réglementation. Pour ce qui est des coûts applicables, on a le choix d'inclure tous les coûts économiques liés au régime, les coûts bruts ou déduction faite des avantages, ou d'autres aspects techniques plus particuliers. Le document de consultation propose « que le budget de réglementation tienne compte des coûts directs et indirects de même que des avantages, y compris d'éventuelles répercussions imprévues, et ce, dans tous les secteurs de l'économie » (*ibid.*, p. 37). On y propose également que les budgets de réglementation soient « établis à partir des prévisions des coûts bruts de la réglementation, c'est-à-dire que les avantages prévus ne seront pas déduits du coût brut estimatif aux fins d'établir les budgets » (*ibid.*, p. 38). Cependant, tous ces éléments d'information servant au processus de décision s'accompagneraient des données et renseignements connexes sur les avantages.

Les coûts doivent être fondés sur des prévisions de coûts ou des estimations du rapport coûts-avantages. Or, l'expérience démontre qu'il est difficile de mesurer les coûts et avantages avec exactitude et qu'on a tendance à les exagérer. Bien qu'en cette matière les EIR

donneront des valeurs de référence, les autorités britanniques sont conscientes de la nécessité d'améliorer ces mesures, d'où l'appel à poursuivre les discussions et à élaborer de nouvelles méthodologies. D'autre part, si on attend la perfection méthodologique, le budget de réglementation à l'échelle gouvernementale ne verra jamais le jour, et l'impulsion pour mettre au point et raffiner ces méthodologies demeurera limitée.

Aux États-Unis, l'idée de budget de réglementation a d'abord été mise de l'avant à la fin des années 1970 par l'Office of Management and Budget (Tozzi, 1979). Sous un régime de budgets de réglementation, chaque organisme de réglementation se verrait imposer une limite aux coûts liés à l'observation des nouveaux règlements. D'évidence, cette idée était axée sur la réglementation, mais elle avait aussi toujours un lien avec la constitution d'un budget fiscal intégral.

Les budgets fiscaux actuels comprennent les revenus et les dépenses du gouvernement, mais non les dépenses qu'il « délègue » aux entreprises et aux consommateurs ou qu'il leur impose par voie de réglementation. Ces dépenses « transmises » demeurent hors budget. Par conséquent, les gouvernements ont tout lieu de choisir la réglementation en tant qu'instrument de politique, car les coûts qui en découlent sont « cachés » et imposés au consommateur et à l'entreprise privée. Les propres coûts assumés par le gouvernement pour s'acquitter des responsabilités réglementaires de l'État sont bien sûr inscrits aux budgets réguliers, mais pas ceux du secteur privé.

Ainsi, le budget de réglementation pourrait comporter quatre avantages :

- une attention plus explicite aux coûts liés à la réglementation;
- une affectation plus économique, vu l'obligation d'établir des priorités;
- la décentralisation de la prise de décision;

- une responsabilisation législative accrue en matière de coûts liés à la réglementation (Jacobs, 1999, p. 155).

La notion d'« affectation » renvoie à l'affectation de valeurs et d'avantages qui occupent une position centrale dans les politiques et la gouvernance. L'avantage que l'on attribue à la prise de décision décentralisée est possible dans une certaine mesure parce que les ministères dont la vocation se rapproche le plus du domaine de la réglementation aideraient à fixer et à recommander des priorités en matière de réglementation. Tout compte fait cependant, un vrai budget de réglementation comporte à la fois une planification centralisée et un processus décisionnel.

Les États-Unis n'ont jamais adopté de budget de réglementation intergouvernemental, d'une part faute de données sur les coûts de la réglementation et faute d'ensemble complet et cohérent d'estimations des coûts, d'autre part parce que des parties prenantes craignaient qu'un tel budget n'ait pour effet global une réglementation excessive ou lacunaire. Entre aussi en ligne de compte un manque de volonté politique, une volonté qui pourrait être encore plus difficile à assurer dans le système politique américain, où les pouvoirs sont répartis entre l'exécutif et le Congrès (Meyers, 1998; Crews, 1998; Thompson, 1997). Cependant, certains éléments des budgets de réglementation sont apparus au début des années 1990, dans le cadre des modifications apportées à la *Clean Air Act* et à la *Safe Drinking Water Act* des États-Unis, lorsque des coûts plafonds du secteur privé ont servi de point de référence aux négociations entre le président et le Congrès (James, 1998) concernant ces lois et leurs règlements. Compte tenu de ces expériences et de la logique d'ensemble qui justifie l'établissement de budgets et de programmes de réglementation, des efforts sont régulièrement

Ces difficultés renvoient aussi à d'autres choix relatifs au champ d'application du régime. Le document de consultation précise que le régime des budgets de réglementation inclurait « tous les coûts associés aux règlements ayant une incidence sur une entreprise ou une organisation du secteur tertiaire » (*ibid.*, p. 11). Les règles régissant la prestation de la fonction publique (la réglementation interne) en seront exclues. Les choix relatifs à la limite et au champ d'application du régime visent également l'inclusion – ou l'exclusion – des règlements issus de l'Union européenne (qui seront inclus), la portée géographique des compétences des autorités exclusives au gouvernement par pouvoirs dévolus en Ecosse et au pays de Galles (une espèce d'équivalent britannique à la décision d'appliquer ou non un budget de réglementation national aux échelons fédéral et provincial/territorial), de même que la décision d'y inclure ou non les organismes de réglementation économiques ou indépendants (le document de consultation recommande leur exclusion). La Banque d'Angleterre serait au nombre de ces organismes. Au Canada, par exemple, l'Office national de l'environnement est un organisme de réglementation indépendant. L'exclusion de ces organismes dans les propositions britanniques pourrait en fait ne pas être retenue lorsque le régime final sera annoncé, vu le caractère politiquement controversé de cette question relative au champ d'application.

**Presque tous ces problèmes de conception du régime mettent en lumière la nécessité d'anticiper et de gérer les manœuvres éventuelles des ministères et des organismes de réglementation, sans parler de celles des intérêts privés visés par la réglementation, qui accompagneront l'adoption d'un tel régime.**

des ministères et des organismes de réglementation, sans parler de celles des intérêts privés visés par la réglementation, qui accompagneront l'adoption d'un tel régime. J'entends ici par « manœuvres » les moyens tactiques que les ministères et leurs parties prenantes emploient pour contourner ou atténuer certaines prescriptions d'un programme ou budget officiel. Il peut s'agir, par exemple, de suggérer d'appeler « lignes directrices » les nouvelles règles proposées ou de réclamer un statut d'exception face aux règles qui accompagneraient normalement le programme ou le budget.

Au Royaume-Uni, l'initiative des budgets de réglementation a vu le jour avec l'appui du premier ministre. La décision a été prise d'aller de l'avant, mais la direction en sera assurée par le BERR. Celui-ci a produit un document de consultation en août 2008, et des consultations sont en cours (Royaume-Uni, Department for Business Enterprise and Regulatory Reform, 2008b). Le régime des budgets de réglementation est en voie d'élaboration, en vue d'une première mise à l'essai en 2009; il sera pleinement opérationnel en 2010. Les orientations et problèmes abordés lors des consultations portent sur les éléments suivants :

- la conception du régime dans son ensemble;
- le champ d'application des instruments de réglementation à inclure; les choix méthodologiques, notamment en ce qui a trait au calcul des coûts et des avantages.

Examinons brièvement chacun de ces éléments. L'ensemble du régime des budgets de réglementation repose sur l'idée que le gouvernement britannique établisse les budgets par ministère, tout en ouvrant l'œil sur les postes horizontaux tels que l'évolution du climat. En ce qui concerne la période, les discussions portent sur des budgets triennaux ou quinquennaux plutôt qu'annuels, mais comportant « un principe de souplesse face aux imprévus, dans le temps et entre les ministères » (*ibid.*, p. 10).

Il convient de souligner qu'au Royaume-Uni, les budgets de dépenses régulières comportent déjà des processus d'affectation et des plans de dépenses à moyen terme (triennaux). La question se pose également de savoir s'il faut établir des catégories d'organismes de réglementation au sein d'un ministère et si, sur une période budgétaire donnée, il faut réserver une enveloppe budgétaire aux postes relatifs à l'impraticabilité ou au degré de difficulté du dossier des changements climatiques que le gouvernement britannique a finalement résolu de l'exclure du budget de réglementation initial.



## L'engagement du Royaume-Uni à adopter un budget de réglementation

Dans un rapport récent sur les entreprises au Royaume-Uni, le gouvernement britannique s'est engagé à « mener des consultations sur l'instauration, à l'intention des ministères, d'un nouveau régime de budgets de réglementation établissant le coût des nouveaux règlements qu'il est possible de déposer au cours d'une période donnée », comme le proposait le Better Regulation Task Force (BRTF; *ibid.*, p. 73). Le budget de mars 2008 du Royaume-Uni retirait d'ailleurs cet engagement en soulignant que son programme de réglementation était décrit dans ce rapport (Royaume-Uni, HM Treasury, 2008, p. 44).

Le rapport de 2005 du BRTF recommandait au gouvernement d'« élaborer une méthodologie visant à évaluer le coût total de la réglementation et d'envisager l'instauration de budgets de réglementation complets » (*ibid.*, p. 68), plus de créer un précédent sur le plan international » (*ibid.*, p. 69). Le rapport du BRTF précisait, en conclusion, qu'il était « possible de définir les éléments de base d'une telle méthodologie d'ici deux ans. Pour l'heure, le gouvernement devrait réexaminer la possibilité d'instaurer des budgets de réglementation complets prenant en compte les effets cumulatifs de la réglementation » (Royaume-Uni, Better Regulation Task Force, 2005, p. 47). Comme nous le soulignons ci-après, cette insistance dans le discours sur les « coûts » de la réglementation est quelque peu trompeuse, car les méthodologies qui seront réelles et valeurs politiques sous-jacentes — associées à ces coûts — aux avantages des règlements proposés.

intergouvernementale générale associée à l'élaboration d'un programme de réglementation, ainsi qu'à la justification de tels programmes stratégiques sur les plans de la démocratie et de la gouvernance, sans toutefois aborder les détails du budget de réglementation.

Toute discussion sur un budget de réglementation se doit de citer les idées mises de l'avant aux États-Unis depuis trente ans et récemment, mais qui n'ont jamais été adoptées par le gouvernement américain (Tozzi, 1979; White, 1981; Thompson, 1997; Crews, 1998; Meyers, 1998; Kiewiet, 2006). Comme on le verra plus loin, les États-Unis n'ont pas adopté de régime de ce genre, d'abord à cause de préoccupations relatives à l'insuffisance des renseignements et des données analytiques, mais aussi en raison de problèmes normaux de séparation du pouvoir politique et de définition des orientations dans le contexte constitutionnel américain.

La structure de mon analyse est donc relativement simple. La première section met en lumière les récents développements survenus au Royaume-Uni (Royaume-Uni, Department for Business Enterprise and Regulatory Reform, 2008b; Royaume-Uni, HM Treasury and Department for Business Enterprise and Regulatory Reform, 2008). La deuxième section résume les principales caractéristiques de l'analyse du cas canadien et traite de la nécessité d'un programme de réglementation stratégique.

canadienne, est le livre que nous avons rédigé à l'intention du Conference Board du Canada (Doern, 2007), où nous en appelons à un programme de réglementation stratégique annuel au gouvernement du Canada. Ces deux déclencheurs, chacun à sa façon, ont principalement trait aux programmes stratégiques et règles de discipline axés sur de nouvelles propositions réglementaires plus viguer. L'expression « nouvelles propositions réglementaires » englobe autant les lois adoptées au Parlement que les « règlements » au sens étroit de texte réglementaire ayant force de loi et pris par le gouvernement — généralement par décret — en application d'une loi).

Du point de vue analytique, ces deux volets sont complémentaires en ce que l'engagement annoncé par le gouvernement britannique porte sur un budget de réglementation (le plafonnement du coût, pour le secteur privé, des nouveaux règlements pris au cours d'une période définie), dont l'initiative est toutefois laissée au Department of Business Enterprise and Regulatory Reform (BERR — ministère de l'Entreprise et de la Réforme réglementaire). Cet engagement vise principalement les coûts et les avantages nets en des exigences réglementaires, et jusqu'ici, il n'a guère été documenté par une analyse de la façon dont pourrait fonctionner la dynamique politique intergouvernementale pour la définition d'un programme de réglementation stratégique. D'autre part, l'analyse de la situation canadienne s'attache principalement à la dynamique

**Le budget de réglementation et le programme qui l'accompagne**  
**nécessairement**  
**instaureraient une discipline propre à concrétiser les avantages de la réglementation au meilleur coût possible.**

Depuis quarante ans, on assiste à divers types de réforme de la réglementation et de modification des politiques de réglementation, au Canada et dans d'autres pays membres de l'Organisation de coopération et de développement économiques. Ces initiatives ont été mises en œuvre sous diverses appellations : déréglementation, étude d'impact de la réglementation (EIR), qualité de la réglementation, allègement de la réglementation, allègement des formalités administratives, réglementation intelligente, réglementation fondée sur l'économie, réglementation en fonction des avantages et des risques, réglementation axée sur le cycle de vie (Radelli et De Francesco, 2007; Doern et Johnson, 2006).

Toutefois, toutes ont éludé pour l'essentiel le problème central de la gouvernance en matière de réglementation, soit l'absence d'un budget de réglementation annuel ou pluriannuel, débattu publiquement et assorti d'un

# Une idée qu'il est temps d'adopter : un budget de réglementation assorti d'un programme de réglementation stratégique

Nous soutenons qu'il est temps de mettre de l'avant l'idée d'un budget de réglementation et d'un programme connexe<sup>1</sup>. Le budget de réglementation consiste à fixer des limites aux coûts des nouveaux règlements qui touchent le secteur privé (entreprises et consommateurs), de manière à maximiser les avantages nets de la réglementation. L'objectif est de maximiser les avantages nets en maîtrisant les coûts ou en accordant une priorité aux initiatives comportant un rapport avantages-coûts élevé.

Le programme de réglementation est un complément qui, logiquement et démocratiquement, s'avère nécessaire, car le budget de réglementation exige l'établissement d'une transparence et des priorités quant aux nouvelles règles, aux nouveaux risques et aux avantages et risques potentiels, en se fondant sur les meilleurs renseignements disponibles quant à l'ampleur des coûts et des avantages de la réglementation, et sur le jugement des politiciens quant aux valeurs et aux résultats prioritaires pour l'avenir.

Notre analyse s'attache à deux déclencheurs de l'intervention et de la discussion. Le premier et principal déclencheur est la décision récente du gouvernement du Royaume-Uni de mettre en œuvre un budget de réglementation annuel (Royaume-Uni, Department for Business Enterprise and Regulatory Reform, 2008b; Royaume-Uni, HM Treasury and Department for Business Enterprise, 2008). Le second, plus près de la réalité

1 Nous remercions à exprimer toute notre gratitude à Claudio Radelli et Doug Blair ainsi qu'à deux autres collègues-révisseurs anonymes pour leurs précieux commentaires constructifs à l'égard d'une première ébauche de cet article.



accueillant pour les affaires. Cela pourrait décourager certains investisseurs internationaux et pousser des compagnies nationales à s'installer à l'étranger. La perte de cette assise fiscale accroît le fardeau fiscal des particuliers et peut obliger l'État à sabrer dans ses services. Les militants peuvent également cibler directement le gouvernement en exerçant des pressions à la fois directes et indirectes sur celui-ci comme ils le feraient sur une entreprise privée. Cela pose problème quand deux groupes militants aux vues opposées tentent d'influencer un gouvernement pour une même cause. Par exemple, quand des défenseurs de l'énergie éolienne et un groupe de protection des oiseaux migrateurs polarisent le débat sur la construction d'éoliennes. Le groupe le plus important ou le plus efficace peut remporter la bataille, peu importe le degré de représentativité de ses membres vis-à-vis de la population en général ou la coïncidence de ses intérêts avec ceux du grand public.

Ainsi, les gouvernements peuvent aussi se demander comment influencer les règles de la politique privée. Après tout, la politique privée n'est pas légifrimée par des élections ni par un processus législatif reconnu. Une façon de faire consiste à confronter directement les militants et à favoriser une bonne conduite. Les gouvernements peuvent également aviver la ferveur de certains groupes militants choisis pour exercer une pression d'intérêt public sur les entreprises. Dans un scénario idéal pour un gouvernement, les groupes militants deviendraient des mécanismes efficaces du processus démocratique. Ils permettraient la promulgation rapide de politiques à moindre coût pour le

gouvernement, éliminant la nécessité d'une réglementation officielle rigide et les coûts d'observation des lois élevés pour les entreprises. Peu importe que les gouvernements emboîtent le pas ou non, ils devront participer au débat sur la politique privée afin de soutenir la légimité de la démocratie. Il fut un temps où les gouvernements avaient le monopole des politiques d'intérêt public. De nos jours, les groupes militants cherchent à soutenir une part de cette influence sur les comportements sociaux et sur ceux des entreprises. Ainsi, le principal défi des gouvernements face à cette nouvelle donne est de trouver comment à la fois aviver et refreiner le militantisme afin de préserver la primauté du processus démocratique.

## Référence

Lawrence, Felicity. 2002. « Sweatshop Campaigners Demand Gap Boycott ». November 22. <[www.guardian.co.uk/uk/2002/nov/22/clothes/globalisation](http://www.guardian.co.uk/uk/2002/nov/22/clothes/globalisation)>.

Une fois cette solidarité acquise à l'interne, le syndicat est en mesure de coordonner des pressions; par exemple les travailleurs qui ralentissent systématiquement la production ou qui prennent leurs congés de maladie. Cela s'est vu lors de la grève des travailleurs unis de l'automobile chez Caterpillar au début des années 1990. La vulnérabilité qui découle de ces tactiques internes bien orchestrées peut porter ses fruits même contre de très grandes entreprises.

## Impact sur les sociétés

La politique privée est une méthode de plus en plus efficace et reconnue pour influencer le comportement des entreprises, les compétences cherchées, comment éviter de devenir des cibles. Certaines entreprises estiment qu'une collaboration sans résistance vaut mieux que les dommages d'une attaque, mais étant jugées faibles, elles risquent des lors de s'exposer à d'autres attaques. Les entreprises s'autoréglementeront afin d'éviter les attaques. Toutefois, elles peuvent provoquer une réaction en chaîne d'autoréglementation dans l'ensemble de leur industrie. Par exemple, alors qu'une entreprise modifie ses politiques afin d'apaiser un groupe militant, ses concurrents deviennent des cibles faciles. Si ces

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entreprises concurrentes modifient à leur tour leurs politiques pour imiter, voire surpasser la première à avoir fait le pas, d'autres apporteront des changements semblables pour éviter de devenir à leur tour des cibles, et ainsi de suite. Cette tendance prévaudra jusqu'à ce que toutes les entreprises de l'industrie aient autoréglementé leurs pratiques commerciales. Certaines attaques, toutefois, ne peuvent être évitées, et les entreprises sont contraintes de croiser le fer avec les militants. Le cas échéant, les entreprises ont trois options : ignorer (en poursuivant les affaires sans rien changer), combattre (en lançant une contre-attaque) ou négocier (en négociant un accord).

Les entreprises doivent analyser avec soin la campagne dont elles sont les cibles avant d'envisager une réponse. Elles doivent tout d'abord évaluer si l'attaquant pose une réelle menace, avec des succès à son actif. Elles doivent aussi évaluer si la cause aura des répercussions sociales : le groupe jouit-il d'appuis? L'entreprise qui choisit la négociation devra-t-elle satisfaire à toutes les exigences ou ne consentir que quelques concessions à peine? Si l'entreprise juge qu'elle est en position de force, elle peut également utiliser les outils de politique privée pour répliquer. Cela nécessite parfois une campagne de communication coordonnée et coûteuse.

## Politique privée et gouvernements

La réelle incidence de la politique privée sur les entreprises est une sensibilisation accrue sur les enjeux sociaux et environnementaux à toutes les étapes de la chaîne de valeur. Les entreprises embauchent désormais des ONG avant de s'implanter dans les pays en développement et cherchent conseil auprès de militants pour soigner leur image.

La politique privée a des influences profondes sur les gouvernements et les citoyens. Bien que la montée de la politique privée ait permis aux citoyens de jouer un rôle plus actif et opportun au sein de la démocratie moderne, elle les rend à la fois plus vulnérables aux changements consensuels des politiques sociales et économiques provoqués par les groupes militants influents qui ne sont pas représentatifs de l'ensemble de la population.

La politique privée est une lame à double tranchant pour les gouvernements également. Ce mécanisme peut certes alléger le fardeau d'une certaine réglementation sociale et environnementale, mais peut également aller à l'encontre des politiques gouvernementales en vigueur. Par exemple, des militants peuvent tenter d'amener le gouvernement à réglementer certaines industries, comme la chasse aux phoques, qui sont vitales pour l'économie locale et le bien-être d'un groupe vulnérable, par exemple, un peuple autochtone.

En outre, des attaques répétées contre les entreprises d'un pays risquent de ternir la réputation de ce dernier. Ainsi, si le Canada est le théâtre d'actions militantes énergiques contre les entreprises, il risque de se faire une réputation d'endroit peu



les ateliers clandestins de Gap dans des pays en développement. Bien que la campagne ait été axée sur les droits de la personne, notamment sur de meilleurs salaires et un traitement plus équitable des travailleurs des pays en développement, le SVTI tirait des avantages plus directs de la réussite de celle-ci. Quand les droits et les salaires des travailleurs du textile des pays en développement augmentent, le travail imparfait devient du coup plus coûteux. Cela protège des emplois syndiqués au Royaume-Uni (Lawrence, 2002).

Une fois leur cause choisie, les militants peaufinent leur stratégie d'exécution. L'apport du mouvement ouvrier est important dans ce domaine; on lui doit notamment des guides de fonctionnement et des programmes d'éducation destinés aux organisateurs et aux militants.

Le choix de l'entreprise cible est la pierre angulaire de la stratégie de campagne. Bien que le pire des contrevenants semble à première vue la cible évidente, les militants peuvent s'attaquer à des entreprises plus vulnérables et plus susceptibles d'acquiescer à leurs exigences. Les entreprises des segments très concurrentiels comme les détaillants sont des cibles de choix. Ces victoires faciles peuvent avoir une réaction en chaîne sur les succès alors qu'une campagne fructueuse attire les partisans et pousse l'industrie à faire pression sur d'autres entreprises.

Les militants ciblent également les entreprises qui ont une grande visibilité. La couverture médiatique d'une campagne contre une firme notoire peut exercer une pression énorme sur cette dernière.

## Les consommateurs sont des lors plus enclins à appuyer des causes militantes, ce qui accroît l'utilisation de la politique privée.

De plus, les militants préfèrent cibler les entreprises avec des substituts des entreprises capables de changer de fournisseurs à peu de frais. Si les consommateurs n'ont pas à bouleverser leurs habitudes, ils seront plus enclins à soutenir une campagne.

Les militants peuvent aussi mettre la pression sur certaines compagnies dans la chaîne de valeur d'une entreprise afin d'exercer une contrainte externe sur une cible difficile à atteindre. Cette tactique, dite de ciblage indirecte, peut être très efficace. La réussite d'une entreprise repose sur tout un éventail d'intervenants. Les grandes sociétés industrielles se fient notamment aux banques et aux investisseurs pour leur financement, à leurs fournisseurs pour leur production et aux clients pour l'achat de leurs produits. En exerçant de la pression sur un partenaire extérieur vulnérable, les militants peuvent altérer le résultat net de l'entreprise. Une telle tactique est particulièrement efficace si la cible indirecte a des substituts proches à la cible ultime.

Le dernier élément stratégique dont un groupe militant doit tenir compte avant de choisir ses outils et ses tactiques est l'utilisation des médias. Différents agents médiatiques joueront des rôles particuliers durant une campagne. Par exemple, les militants peuvent recruter des dirigeants sociaux afin de légitimer leur cause. Ils peuvent également utiliser des agents médiateurs tels que des journalistes pour amplifier leur message. En dernier lieu, ils peuvent également cibler des parties intéressées et des influenceurs dans le cadre d'une stratégie indirecte. L'objectif de toutes ces tactiques est

généralement de faire passer les membres du groupe militant pour les bons, et l'entreprise ciblée pour la méchante.

Les principaux outils de la politique privée sont le préjudice et la récompense. Le préjudice s'exerce de diverses façons. La plus connue est sans doute le boycott. Celui-ci peut se faire directement contre l'entreprise, ou indirectement contre des parties intéressées. L'image stéréotypée du boycott est un groupe de consommateurs qui font du piquetage devant un magasin. Une campagne de boycott peut avoir des effets dévastateurs lorsqu'elle importe des clients liés par contrat résiliant celui-ci.

Une attaque contre les sources en capital d'une entreprise peut être très efficace. Celle-ci suppose des campagnes indirectes contre les banques et des échanges avec des investisseurs institutionnels et autres ainsi qu'avec des analystes pour les convaincre que leur investissement dans un comportement que les militants jugent irresponsable n'est pas viable financièrement. En outre, les groupes ouvriers peuvent mettre à profit leurs fonds de retraite pour influencer leurs cibles. Pour ce faire, ils retireront des fonds des institutions financières, exerceront leurs droits de vote et formeront des coalitions avec d'autres investisseurs institutionnels dont les objectifs sont semblables.

Les groupes ouvriers disposent d'un outil que les autres groupes n'ont pas : un loup dans la bergerie. En mobilisant les syndicats d'une entreprise, les groupes ouvriers peuvent appliquer des tactiques qui font peser une pression énorme sur les entreprises ciblées. Cette énergie s'alimente de gestes de solidarité; par exemple, demander aux membres de porter des macarons et des chandails syndicaux au travail pour démontrer à l'employeur qu'il fait face à un front uni.

qu'il est préférable de fléchir devant les militants. En revanche, les entreprises sont toujours tenues responsables par les investisseurs et les autres parties intéressées. En outre, les groupes militants souffrent d'un net désavantage par rapport aux entreprises qu'ils attaquent en ce qui a trait au financement du lobbying. Bien que la politique privée se distingue de la politique publique, l'une et l'autre ne sont pas mutuellement exclusives. En fait, de nombreux groupes militants les utilisent de concert.

La politique privée a vu le jour à la croisée de l'échec des institutions syndicales des années 1950 et du militantisme radical des années 1960. Les chefs syndicaux désillusionnés ont dû admettre que leurs tactiques traditionnelles ne fonctionnaient plus. Si bien qu'ils se sont inspirés de la nouvelle vague des militants sociaux de l'époque pour mettre au point un nouveau cadre stratégique. Par surcroît, l'engagemment de ces groupes sociaux a raffermi la base militante des syndicats, leur permettant du coup de légitimer une cause par ailleurs jugée intéressée. Le succès qui en a découlé a confirmé la politique privée comme outil utile pour tous les groupes militants.

Par la suite, les nouvelles valeurs préconisées par les consommateurs ont renforcé l'appui à la politique privée. Plus que jamais, les consommateurs évaluent les conséquences sociales de leurs achats. Des recherches démontrent qu'ils se soucient davantage des détails « postmatéria-listes » d'un produit (par exemple, la durabilité ou l'expression de leur personnalité) et ne se limitent plus à l'aspect pécuniaire. Les consommateurs sont désormais plus enclins à appuyer des causes militantes, ce qui accroît l'utilisation de la politique privée.

Cet engouement pour la politique privée est peut-être surtout dû à la maturation d'Internet. Internet a considérablement réduit les coûts d'organisation d'une campagne et permet aux militants de galvaniser le soutien en ligne avant même que leur cible prenne conscience de la menace. De plus, Internet est un excellent outil de recherche et de développement. Non seulement permet-il aux militants de découvrir et d'approfondir des causes, mais il est un média didactique efficace. Les militants peuvent désormais joindre rapidement leurs partisans à peu de frais et diffuser divers renseignements sur les campagnes projetées, par exemple les thèmes et les plans d'exécution. Internet a également menté considérablement le militantisme individuel, car les consommateurs jouissent désormais d'une myriade d'options pour diffuser leurs opinions en ligne.

En outre, l'augmentation des moyens de communication à prix abordable, combinée à la mondialisation de l'économie, procure aux pays en voie de développement une voix au chapitre sur la réglementation des activités commerciales. L'uniformisation du monde signifie que les problèmes locaux s'effacent. On ne peut plus cacher aux consommateurs modernes les pratiques d'exploitation de certaines entreprises dans les pays en développement.

## Structure et tactiques du militantisme moderne

Bien qu'on remarque de nombreux types de militants dans la société moderne, les principaux archétypes sont les militants du mouvement ouvert et les autres. Les objectifs comme les moyens de ces groupes sont différents. Les groupes ouverts ont toujours un intérêt personnel direct dans la réussite de leur campagne; leurs attaques tendent donc à

être moins dures et leurs membres sont plus enclins à négocier avec les dirigeants d'entreprise. Les groupes qui ne sont pas apparentés au mouvement ouvert repèrent un large éventail d'intérêts; par exemple l'environnement, les droits de la personne ou les questions sociales telles que les libertés religieuses et individuelles. Leurs attaques sont généralement plus radicales, car ils considèrent leurs cibles comme des méchants. Ainsi, quand un groupe environnementaliste pronant l'arrêt de la déforestation cible une société forestière dans le but d'arrêter la déforestation, le meilleur résultat à ses yeux, est dès lors l'élimination de cette société.

Les actions des groupes militants s'excentrent autour de campagnes contre des entreprises. Cela sert de cadre organisationnel pour tous les efforts déployés afin d'atteindre ces objectifs.

La première étape d'une campagne est la détermination de l'enjeu. On pourrait croire que rien n'est plus simple que de choisir la cause qui correspond le mieux aux convictions des militants, mais d'autres facteurs entrent en ligne de compte. Par exemple, le soutien des militants étant sollicité de toutes parts, les groupes doivent choisir des causes qui gagneront la faveur des consommateurs. En outre, la cause qui tient à cœur au militant peut être perçue comme purement égoïste. C'est pourquoi certains groupes greffent souvent à leur campagne des causes complémentaires afin d'élargir la coalition de leurs partisans. Citons en exemple le boycott organisé par le Syndicat du vêtement, textile et autres industries (SVTT) contre le détailant de vêtements Gap Inc. au Royaume-Uni en 2002. Le SVTT a uni ses efforts au groupe d'action sociale Africa Forum pour mettre au jour les entorses aux droits de la personne dans



Résumé

Plus que jamais, les entreprises sont pointées du doigt pour les changements sociaux qu'engendrent leurs activités. Les acteurs comptent parmi les militants modernes qui font appel à des techniques raffinées pour exercer leur influence. Les organisations non gouvernementales (ONG) délaissent de plus en plus les politiques traditionnelles et se tournent vers la politique « privée » pour modifier les pratiques des entreprises et des industries. Au lieu de suivre la voie traditionnelle qui s'appuie sur les institutions publiques dans le but d'influencer la réglementation, la « politique privée » utilise les mécanismes du marché afin de modifier les pratiques commerciales.

Cet article s'intéresse aux principaux éléments de la politique privée — stratégies militantes telles que les campagnes

Politique privée : le militantisme public comme mécanisme de réglementation alternatif?

contre les entreprises et les commerces, avec autoréglementation ou responsabilité sociale des entreprises — et de son influence sur les gouvernements. Quand les militants ciblent une entreprise particulière, ils cherchent à modifier une pratique de l'industrie dans son

ensemble par des actions qui ont un impact sur la réputation de l'entreprise ou de l'industrie. Ils choisissent donc leur cible en fonction d'un impact maximal et non pour sa responsabilité causale concernant une pratique offensante particulière. Les entreprises doivent donc soupeser le risque d'être ciblées et de ce fait élaborer des stratégies proactives. C'est pourquoi les stratégies complexes de la politique privée se caractérisent par plusieurs aspects tels que le choix de la cible, les stratégies de campagne, le rôle des médias et de l'opinion publique, les mesures proactives prises par les entreprises et le choix du type de cible : une entreprise ou une industrie. Je conclus en examinant les conséquences normatives potentielles de la politique privée, l'influence qu'exercera ce mécanisme émergent sur les nouvelles politiques et l'incidence que ces changements auront sur le rôle des gouvernements.

À une époque de mondialisation galopante, la réglementation gouvernementale est de plus en plus soutenue et remplacée par le mécanisme de la politique privée. La politique privée se distingue de la politique publique traditionnelle. Au lieu d'émaner d'institutions publiques qui réglementent les comportements individuels, la politique privée est l'affaire des groupes militants et des consommateurs. Ces derniers emploient une variété d'outils pour insuffler de nouvelles valeurs sociales, environnementales et démocratiques aux entreprises. Souvent, les campagnes militantes visent à saper la réputation et parfois même la rentabilité des entreprises qu'elles taxent d'irresponsabilité.

Les militants choisissent cette voie pour nombre de raisons. En premier lieu, grâce à la politique privée, ils peuvent provoquer des changements très rapides. Selon le moment dans le cycle électoral, certains politiciens pourront ne pas juger

Les avantages que présente la nanotech-  
nologie, qui vont de l'administration  
ciblée de médicaments à l'assainissement  
de l'environnement, sont très attrayants.  
Ces avantages sont pour l'avenir, mais on  
trouve déjà certaines applications de la  
nanotechnologie sur le marché (dans  
certaines peintures et écrans solaires, par  
exemple). De nombreuses applications

technologie et les biocarburants.

aux décideurs qui doivent faire face à des  
questions d'actualité comme la nano-  
technologie et les biocarburants.

## Conclusion : Les avantages d'une meilleure gestion des risques pour la politique publique

Les décideurs sont souvent appelés à  
prendre des décisions et des mesures  
dans des échelons très serrés, avec de  
l'information incomplète et des avis  
divergents. Ils doivent prendre des déci-  
sions et des mesures même en cas de  
manque de connaissances. Le cadre de  
l'IRGC devient utile car il fournit une  
orientation, même dans des situations  
très complexes, incertaines ou ambiguës.

Les risques simples nécessitent peut-être  
peu de consultation étant donné leur  
nature ordinaire, mais dans le cas des  
risques comportant un degré de com-  
plexité ou d'incertitude élevé, un dia-  
logue plus vaste avec des personnes  
possédant des connaissances approfon-  
dies du sujet ou avec tous les intervenants  
directement concernés, respectivement,  
pourrait être utile. Les risques très ambi-  
igus sont ceux pour lesquels une consul-  
tation étendue avec les intervenants est  
recommandée. Pour que la participa-  
tion des intervenants soit efficace, le pro-  
cessus de gestion des risques doit être  
inclusif et adapté aux personnes concer-  
nées et il doit permettre d'optimiser l'ac-  
ceptabilité des décisions prises.

Avec la hausse des cours du pétrole brut,  
qui sont passés de moins de 40 \$/US le  
baril en 2002 à plus de 140 \$/US en juil-  
let 2008, beaucoup d'États encouragent  
la production et l'utilisation de biocarbu-  
rants pour le transport et le chauffage. La  
sécurité de l'approvisionnement en  
pétrole est sans contredit un principe  
impératif, et les biocarburants semblent  
être une solution à court terme, bien  
que partiellement, à ce qui apparaît comme  
étant l'un des problèmes à long terme les  
plus urgents de l'économie mondiale. Il  
y a toutefois une controverse évidente  
qui entoure les répercussions des  
méthodes de production actuelles du  
biocarburant sur l'ensemble de la société  
(notamment le dilemme « carburant ou  
alimentation ») et sur l'environnement.  
(Il semble n'y avoir aucune indication  
précise quant aux répercussions du cycle  
de vie complet des biocarburants sur les  
émissions de gaz à effet de serre.) En  
adoptant la vision à long terme préconi-  
sée dans l'approche de l'IRGC (IRGC,  
2008), les décideurs pourraient peut-  
être faire plus pour accélérer les techno-  
logies de la deuxième génération de  
biocarburants, afin de diminuer la pres-  
sion sur les terres agricoles. Ils pour-  
raient aussi lancer des signaux pour faire

de la nanotechnologie sont tellement  
nouvelles qu'il n'a pas encore été possi-  
ble d'évaluer les risques de façon  
scientifique. Selon le cadre de l'IRGC, il  
y a beaucoup d'incertitude, et cette  
incertitude a donné l'occasion aux  
Ami(e)s de la Terre et à d'autres organi-  
sations de demander des moratoires sur  
l'utilisation de la nanotechnologie, dans  
l'alimentation par exemple. Selon l'une  
des recommandations de l'IRGC  
(IRGC, 2007), les décideurs devraient  
contribuer à faire tomber cette contro-  
verse en finançant les études d'évaluation  
des risques nécessaires, en particulier sur  
les nanomatériaux et les nanoparticules  
qui sont couramment utilisés.

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ment à l'adresse <www.irgc.org>.

savoir que les initiatives visant les tech-  
nologies actuelles prendront fin lorsque  
ces technologies auront été remplacées.  
La nanotechnologie et la bioénergie sont  
de nouvelles technologies qui présentent  
des avantages mondiaux, mais dont les  
risques afférents pourraient aussi avoir  
des conséquences mondiales. Dans les  
deux cas, la gestion des risques nécessite  
une approche harmonisée des gouverne-  
ments du monde entier : la gestion inté-  
grée des risques dans son sens propre.  
L'IRGC, par son approche en matière de  
gestion des risques, travaillera activement  
à sa mise en œuvre.



Il est plus facile de gérer les risques comportant des incertitudes à l'aide de stratégies fondées sur la précaution et axées sur la récupération, afin de prendre des mesures de précaution pour garantir que les décisions importantes sont réversibles et d'accroître la capacité d'adaptation d'un système pour qu'il puisse résister aux imprévus.

L'ambiguïté résulte d'interprétations divergentes ou contestées du risque ou des données. Les risques qui ont un degré élevé d'ambiguïté comprennent notamment ceux liés à l'énergie nucléaire, aux compléments alimentaires, au traitement hormonal des bovins et à certaines applications de la nanotechnologie et de la biologie synthétique. Les problèmes comportant des risques ambigus requièrent une stratégie fondée sur la discussion, qui vise à créer la tolérance et une compréhension mutuelle des opinions et des valeurs divergentes, afin d'arriver à une entente.

L'IRGC fournit aussi une orientation sur la meilleure façon de concrétiser l'idée d'une participation des intervenants au processus de gestion des risques. La gestion inclusive se fonde sur l'hypothèse selon laquelle tous les intervenants ont quelque chose à apporter au processus de gestion des risques et que leur participation permet d'améliorer la qualité des décisions. Ils ne gênent pas le processus décisionnel et ne compromettent pas la qualité des données scientifiques. Toutefois, les risques ne peuvent pas tous être gérés de cette façon; c'est pourquoi l'IRGC recommande qu'ils soient catégorisés (surtout simples, complexes, incertains ou ambigus) afin qu'on puisse juger du degré approprié de participation des intervenants au processus (voir la figure 3).

**Le cadre de l'IRGC peut aussi aider à cerner les lacunes actuelles ou potentielles dans le processus de gestion des risques. Les lacunes courantes sont notamment :**

#### Dans la pré-évaluation

- Les signes annonçant un risque connu ne sont pas détectés ou reconnus
- Des intervenants ont des avis divergents sur une question
- Il existe des cas aberrants, mais aucune conscience d'un danger ou d'un risque possible

#### Dans l'appréciation

- Il y a un manque de données scientifiques au sujet d'un risque et/ou des inquiétudes des gens ou, dans le cas où les données sont suffisantes, ces données ne sont pas acceptées
- Peu de confiance dans les données ou l'interprétation de données
- Il y a un manque d'attention aux interdépendances et aux interactions dans le système à risque

#### Dans la caractérisation et l'évaluation

- Certains intervenants, de même que leurs avis, sont exclus du processus d'évaluation, intentionnellement ou non
- Les compromis ne sont pas clairement expliqués et les intentions cachées sont permises dans la détermination du résultat du processus d'évaluation
- L'équilibre entre les besoins sociaux, les répercussions sur l'environnement, les analyses coûts-avantages et les risques par rapport aux avantages est négligé

#### Dans la gestion

- Aucune entité n'est responsable de la gestion du risque, ou plusieurs entités le sont et les choses « passent entre les mailles du filet »
- Les décisions à court terme ne sont pas viables ou entraînent d'autres problèmes ou des problèmes secondaires
- Les décideurs ne révisent pas la décision prise concernant un risque à la lumière de nouvelles connaissances

#### Dans la communication

- La communication ne tient pas compte de la façon dont différents intervenants reçoivent et acceptent l'information
- Le fait de considérer les inquiétudes de certaines personnes ou organisations comme étant non pertinentes ou non rationnelles crée une aliénation
- Le processus décisionnel, l'information fournie ou la voie de communication inspirent peu confiance

#### Dans la participation des intervenants

- Une attitude paternaliste et un refus délibéré de demander ou d'accepter des connaissances ou de communiquer avec d'autres parties intéressées donne aux intervenants le pouvoir de prendre des décisions sans tenir compte de la nécessité du dialogue et des consultations
- « L'analyse paralyse » lorsque le choix d'un processus trop inclusif donne lieu à l'inertie ou à l'indécision

L'approche de gestion adaptée à un risque dépend en partie de l'état et de la qualité des connaissances sur ce risque, en particulier de la clarté des connaissances sur les relations de cause à effet. L'IRGC accorde une importance particulière à ce défi lié aux connaissances et recommande que les connaissances sur un risque (et non le risque lui-même) soient catégorisées selon qu'elles sont tout simples, complexes, incertaines ou ambiguës. La catégorisation des connaissances peut aider à concevoir des stratégies de gestion des risques et à prévoir la

Figure 3  
Prévision de la participation des intervenants en fonction de la  
caractéristique dominante du risque

Figure 3

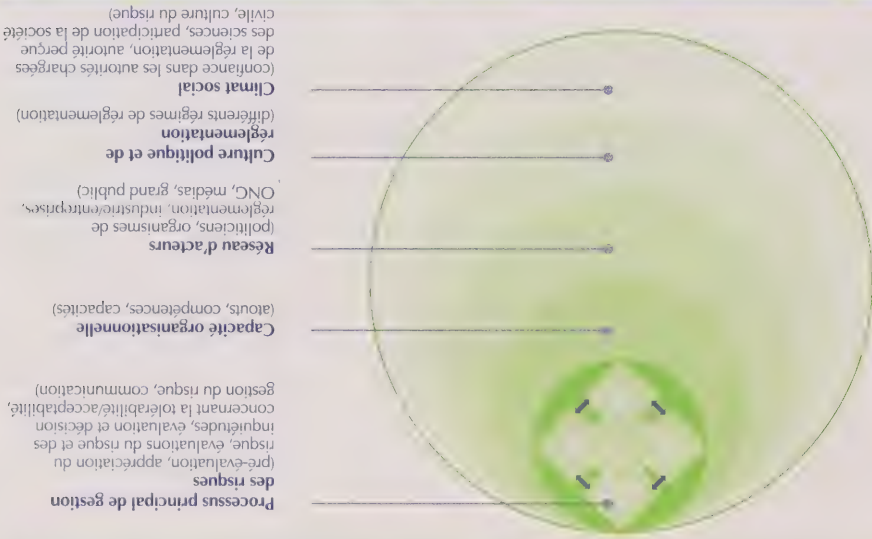
requièrent différents modes de gestion et de communication.



L'appréciation du risque permet d'acquiescer les connaissances nécessaires pour décider si un risque doit être pris et, le cas échéant, de la meilleure façon de le gérer. Cette étape comprend une évaluation du risque (évaluation scientifique des caractéristiques factuelles, physiques et mesurables du risque et de la probabilité qu'il se produise) et une évaluation des inquiétudes (analyse systématique des associations et des risques et avantages perçus que les intervenants, les individus et les groupes ou d'autres cultures pourraient lui associer). L'évaluation des inquiétudes est un élément novateur du cadre de l'IRGC qui vise à faire en sorte que les décideurs étudient la façon dont les valeurs et les émotions influent sur la perception du risque.

À l'étape de l'évaluation du risque, les questions suivantes se posent : Quels sont les principaux dommages ou effets négatifs potentiels ? Quelle est la probabilité qu'ils se produisent ? Les relations de cause à effet peuvent-elles être claires-ment établies ? Quels avantages, possiblement et effets négatifs principaux et secondaires pourraient en résulter ? L'évaluation des inquiétudes permet d'établir les inquiétudes et les perceptions du public et la réaction probable de la société face au risque (ou à la façon de le gérer). L'expérience vécue par Shell lorsqu'elle a voulu éliminer la plateforme Brent Spar montre bien l'importance de cette fonction.

**Figure 2**  
Contextes de la gestion des risques



Une telle décision comprend des questions comme : Quels sont les avantages et les risques pour la société, l'économie et l'environnement ? La qualité de vie sera-t-elle compromise ? Y a-t-il une solution de rechange ? Si oui, comporte-t-elle moins de risques ? Est-ce que des intervenants (gouvernement, entreprise ou autre) ont des raisons d'attendre un résultat particulier du processus de gestion des risques ?

Tout risque tolérable doit être adéquatement géré par des mesures visant à éviter, à atténuer, à transférer ou à conserver ce risque. La gestion des risques comprend la création, l'évaluation et la sélection d'options de réduction des risques et la mise en œuvre des mesures choisies, la surveillance de leur efficacité et la révision de la décision au besoin.

Les questions clés de la gestion des risques comprennent notamment : Qui est, ou qui devrait être, responsable des décisions concernant le risque et sa gestion ? Ont-ils accepté cette responsabilité ? Quelles sont les options de gestion des risques disponibles (technologiques, réglementaires, éducatives, budgétaires) ?

Ces options ont-elles des conséquences secondaires ? Comment devrions-nous évaluer ces options ? Devons-nous collaborer à l'échelle internationale (concernant les risques mondiaux ou transfrontaliers) ? Comment pouvons-nous garantir l'efficacité à long terme (conformité, surveillance, plans de gestion adaptés) ?

La communication est importante. Elle permet aux personnes qui prennent les décisions relatives aux risques de poser les bonnes questions à ceux qui évaluent les risques. Elle permet aux intervenants et au public de comprendre à la fois le risque et leur rôle dans le processus de gestion des risques. Si on la veut bilatérale, elle leur donne une voix. La communication permet aussi d'expliquer sur quoi sont fondées les décisions concernant un risque et permet aux gens de faire des choix éclairés par rapport au risque et à sa gestion, notamment en ce qui concerne leurs propres responsabilités. Une communication efficace est essentielle pour créer la confiance dans la gestion des risques.

Des événements plus récents confirment que la gestion des risques est de la plus haute importance. Preniez par exemple le SRAS, qui s'est répandu rapidement dans 27 pays et qui a fait 774 victimes parmi les 8 096 personnes atteintes. Cela prouve qu'un nouveau virus pathogène peut présenter des risques importants pour la santé et avoir de grandes répercussions sur l'économie, même au Canada. Des catastrophes naturelles comme le tsunami de décembre 2004, l'ouragan Katrina en 2005 et plus récemment le cyclone Nargis, de même que l'immense tremblement de terre dans le Sud-Ouest de la Chine, ont entraîné des pertes immenses, sur le plan humain et économique. La fragilité des infrastructures essentielles a été démontrée en 2003 lors des pannes d'électricité survenues au Canada et aux États-Unis, de même qu'en Italie et dans d'autres pays européens. La sécurité de l'approvisionnement en énergie et la création de sources d'énergie durables sont des sujets

**risques**  
Au cœur des travaux de l'IRGC se trouve son approche de gestion des risques, laquelle est exposée en détail dans le Livre blanc de 2005 de l'IRGC, *Risk Governance – Towards an Integrative Approach*. Une bonne gestion des risques permet de réduire au minimum la répartition inéquitable des risques et des avantages entre les pays, les organisations et les groupes sociaux, d'assurer un examen approfondi de l'équilibre entre les risques acceptables et les avantages et de la compensation des risques, d'éviter des

### L'IRGC et la gestion des

de préoccupation. Les risques les plus importants sont toutefois ceux qui découlent du changement climatique et qui ont des effets secondaires dans de nombreuses sphères insoupçonnées. Tous ces risques ont des répercussions en cascade et des effets secondaires qui excèdent la capacité de gestion de n'importe quel pays, ce qui vient appuyer la nécessité d'une organisation comme l'IRGC pour proposer des approches de gestion valides à l'échelle mondiale.

Lors de la pré-évaluation, les principales questions sont les suivantes : Quels sont les risques et les possibilités en cause? Est-ce que quelque chose indique qu'il y a déjà un problème? Faut-il agir maintenant? Qui sont les intervenants concernés? Que pensent-ils de ce problème? Quels outils scientifiques ou analytiques existants peuvent être utilisés pour évaluer ces risques? Quelles incidences pourraient avoir les systèmes juridiques et réglementaires actuels sur ce problème? Quelle est la capacité d'organisation des gouvernements, des entreprises internationales, des entreprises et des personnes concernées?

L'approche de l'IRGC commence par la pré-évaluation du risque : définir le risque afin d'avoir une description structurée du problème et de la façon dont il pourrait être géré. Essentiellement, cette étape permet de cerner les enjeux que les intervenants et la société pourraient associer à un risque (ou une possibilité) et de les rendre transparents.

La gestion et la communication. La gestion, la caractérisation et l'évaluation, entre elles : la pré-évaluation, l'appréciation. Il comporte cinq étapes liées pour aider les décideurs à comprendre le concept de la gestion des risques et à l'appliquer. Le Cadre de gestion des risques de l'IRGC (illustré à la figure 1) est conçu pour aider les décideurs à comprendre le concept de la gestion des risques et à l'appliquer. Il comporte cinq étapes liées pour aider les décideurs à comprendre le concept de la gestion des risques et à l'appliquer. Le Cadre de gestion des risques de l'IRGC (illustré à la figure 1) est conçu pour aider les décideurs à comprendre le concept de la gestion des risques et à l'appliquer.

régléments coûteux et inefficaces, et en tenant compte des perceptions du public, de garder sa confiance tout au long du processus décisionnel.





1 L'IRGC a été fondé par Donald J. Johnston, alors secrétaire général de l'OCDE, Adolf Ogi, conseiller spécial de l'ONU sur le Sport au service du développement et de la paix et ancien président de la Confédération suisse, Bennet Johnston, ancien sénateur américain, Olaf Kübler, alors président de l'École Polytechnique Fédérale de Zurich (Suisse), Kun-Mo Chung, alors président de l'Académie coréenne des sciences et des technologies, et Björn Stigson, président du Conseil mondial des entreprises pour le développement durable (WBCSD).

## À propos de l'IRGC

L'International Risk Governance Council a été créé en 2003 à l'initiative du gouvernement suisse et avec l'appui de l'OCDE et de plusieurs grandes entreprises comme l'Electricité de France et Swiss Re, à la suite d'une enquête de l'OCDE sur la gestion des risques et de leur gestion à la fin des années 1990. Les effets cumulatifs de la crise de l'ESB (maladie de la vache folle) en Europe et particulièrement au Royaume-Uni, les craintes liées au génie génétique, la peur d'une panne mondiale des systèmes informatiques (le « bogue de l'an 2000 »), ainsi qu'une hausse dans la fréquence et la gravité des catastrophes naturelles ont provoqué de l'anxiété dans la population et des inquiétudes pour les gouvernements, les organismes de réglementation et qui-conque était concerné par la compréhension et la gestion des risques mondiaux.

La communauté du savoir, c'est-à-dire les personnes chargées de donner les meilleurs avis scientifiques sur lesquels reposent les décisions liées à la gestion des risques, avait de la difficulté à répondre aux demandes de certitudes factuelles. Lorsque cette certitude était clairement établie, il était difficile de communiquer ce savoir aux décideurs. Ces derniers étaient aux prises avec leurs propres problèmes, comme la quantité croissante de données, le rythme des développements techniques et sociaux, les changements d'appartenance et les réorganisations, qui ont une incidence sur la

**Le défi d'une meilleure gestion des risques consiste à permettre aux sociétés de bénéficier d'un changement tout en réduisant au minimum les conséquences négatives des risques associés.**

L'IRGC a été créé à titre d'organisation internationale indépendante pour faire le pont entre les responsables des politiques, les décideurs du monde des affaires, le milieu universitaire et le public, et ainsi servir de catalyseur pour l'amélioration des stratégies de gestion des risques. Les fondateurs de l'IRGC ont cru qu'une nouvelle organisation serait plus apte à jouer ce rôle que les nombreuses institutions existantes qui œuvrent dans le domaine du risque et qui se concentrent sur un seul secteur, une seule discipline ou une seule région.

d'OGM dans le monde, à la satisfaction des partisans et des opposants. Je cite cet exemple parce qu'il illustre bien l'importance du rôle que doit jouer l'IRGC, en particulier dans des domaines de technologies émergentes comme la biologie synthétique, la bioénergie, la nanotechnologie ou la capture et le stockage de dioxyde de carbone (si essentiel au défi des changements climatiques). Sans les évaluations indépendantes de l'IRGC, certains développements technologiques très prometteurs se retrouveraient au centre de débats politiques et idéologiques, tandis que d'autres pourraient susciter des inquiétudes encore non identifiées relatives à la santé et la sécurité du public. À cet égard, j'ai cru et je crois qu'un lien étroit avec l'OCDE est important, car il permettra aux résultats de l'IRGC de se refléter jusqu'aux décideurs des gouvernements fédéraux du monde entier. J'espère que de plus en plus de décideurs se joindront à l'IRGC. Grâce à sa plateforme pour la comparaison et le partage de pratiques exemplaires, nous pourrions mieux comprendre la façon dont différents gouvernements abordent ces grands enjeux.

de ces extraordinaires technologies pour le monde allaient bientôt disparaître, car il n'y avait aucun avis scientifique crédible et indépendant sur les risques et les avantages des OGM et, par conséquent, aucun cadre de réglementation adéquat pour garantir ces avantages et atténuer les risques, le cas échéant. En tant que vétéran des batailles sur les OGM, j'ai tout de suite été attiré par le rôle de l'IRGC, et je dirais même que si l'organisation avait existé à l'époque du débat et de la controverse entourant les OGM, elle nous aurait peut-être épargné ce triste chapitre et nous nous serions entendus sur des cadres de

Avant-propos de :  
L'honorable  
Donald J. Johnston

Président  
de l'International Risk  
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Article de :  
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# L'International Risk Governance Council, son approche de la gestion des risques et les avantages d'une meilleure gestion des risques pour la politique publique

Je ferai quelques commentaires personnels pour présenter l'International Risk Governance Council (IRGC) aux lecteurs qui ne connaissent pas la nature et l'objet de cette importante organisation non gouvernementale. Dans les pages qui suivent, le secrétaire général de l'IRGC, Christopher Bunting, expose de façon détaillée le *modus operandi* de l'IRGC et la façon dont il contribue à la compréhension et à la gestion des grands enjeux qui doivent (ou qui devraient) préoccuper les décideurs du monde entier, dans les pays développés comme dans les pays en développement.

## Avant-propos

À l'heure actuelle, je suis le président du conseil d'administration de cette remarquable organisation qui a été fondée en 2003 pour combler une lacune perçue dans la politique publique internationale, en cernant les risques ayant des conséquences internationales et les cadres de réglementation inadéquats. On m'a invité à faire partie du conseil

La mondialisation allait permettre à ces produits d'entrer sur le marché international des produits agricoles. L'opposition aux OGM fut frappante et immédiate. Représentaient-ils un danger pour la santé humaine? Pour l'environnement? Pourquoi étaient-ils nécessaires? Apparemment, les avantages découlant

Par exemple, prenez les aliments génétiquement modifiés (OGM). Grâce au génie génétique, le matériel génétique a été modifié puis transféré à un organisme, afin de lui donner des caractéristiques différentes ou nouvelles. Les partisans considéraient cela comme une merveilleuse et prometteuse percée, qui permettrait par exemple de produire une nouvelle génération de cultures capables de survivre en résistant aux maladies et dans des conditions de sécheresse ou de salinité dans certains cas, et qui permettrait de répondre aux pénuries dans le domaine de l'agriculture.

En tant qu'ancien politicien et ancien membre du Cabinet fédéral au Canada, j'étais très sensible à la responsabilité première et au rôle primordial du gouvernement de garantir la sûreté et la sécurité du public. C'est ainsi depuis des siècles, mais la mondialisation et l'évolution rapide de l'innovation scientifique ont posé des défis plus grands que jamais auparavant, plus grands même que ceux que nous avons connus au début des années 1980 alors que j'étais le ministre responsable de la science et de la technologie. Cela est devenu très clair pour moi peu de temps après m'être joint à l'OCDE, en 1996.

fondateur alors que j'étais le secrétaire général de l'OCDE et c'est avec empressement que j'ai accepté ce poste d'administrateur, car je voyais d'importantes synergies entre l'OCDE et le nouvel IRGC. J'aimais particulièrement le fait qu'il ne soit pas contrôlé par des entreprises ou par le gouvernement et qu'il soit bien équilibré et représenté à l'échelle internationale.



comportements et faire en sorte que les résultats attendus soient obtenus. Ces mesures ont une incidence majeure sur la façon dont les règlements sont élaborés et mis en œuvre; elles offrent aux organismes de réglementation de nouvelles avenues pour réaliser des objectifs économiques et sociaux.

Les tenants des nouvelles approches de la gestion de la réglementation reconnaissent que la mondialisation et les technologies florissantes de l'information et des communications ont transformé le processus d'établissement de règles. Ce processus, qui était du ressort exclusif des gouvernements nationaux, est devenu la responsabilité collective potentielle d'un grand nombre de gouvernements, collectivités, groupes d'intérêts et citoyens de la scène internationale. Cette réalité exige que l'on mette l'accent sur la compréhension des interdépendances et l'élaboration d'approches pour favoriser la coopération aux niveaux national et international.

La réponse des organismes de réglementation aux nouveaux défis et aux nouvelles occasions qui se présentent sera essentielle au fonctionnement des économies et des sociétés et constituera un ingrédient clé du bien-être des citoyens. Dans certains articles du présent numéro de la revue *Horizons*, on examine les thèmes mentionnés précédemment afin d'éclairer la collectivité de la réglementation canadienne et de l'aider à évaluer les effets potentiels des nouvelles tendances sur le processus de réglementation.

## Les réalités économiques et sociales d'aujourd'hui ont exercé des tensions additionnelles sur les attentes de rendement à l'égard de la réglementation.

Au-delà des sujets abordés dans le présent numéro, il existe toutefois de nombreux dossiers complexes qui font surface et qui pourraient mériter une attention spéciale dans les plans de travail des organisations gouvernementales et non gouvernementales de recherche sur les politiques. Le gouvernement du Canada devra peut-être accorder une attention additionnelle à ces nouveaux enjeux complexes afin de conserver sa place de chef de file en matière de gestion de la réglementation.

Les chercheurs pourraient ainsi essayer de comprendre les considérations stratégiques liées au rôle de chef de file que le Canada joue en lançant d'importantes initiatives de réglementation. Les arguments liés aux économies de petite taille et à la concurrence ont déjà fait l'objet d'un examen empirique dans certaines études, mais il serait intéressant de clarifier les conditions dans lesquelles l'exercice du rôle de leader en réglementation s'avérerait avantageux pour la planification stratégique à moyen terme du Canada.

La possibilité pour les gouvernements de motiver d'autres acteurs à les aider à réaliser leurs objectifs de politique publique est un autre facteur de changement potentiel qu'il serait intéressant d'examiner. Cette stratégie a été couramment utilisée discrètement au gouvernement, mais une analyse structurée des considérations liées à l'établissement de mécanismes

officiels de motivation des autres acteurs serait également utile pour de futurs travaux de recherche sur les politiques. Une autre réponse stratégique du gouvernement pourrait faire l'objet de futurs travaux structurés de recherche sur les politiques : l'étude des effets potentiels de la déclaration par le gouvernement d'exercer un leadership gouvernemental afin d'encourager les acteurs de la société à modifier leur comportement sur une base volontaire. Ces stratégies ont aussi déjà été utilisées couramment à tous les ordres de gouvernement. Il peut s'avérer utile pour l'élaboration de stratégies de comprendre les conditions dans lesquelles une réussite optimale sera obtenue.

Enfin, le traitement analytique de l'évaluation des options de réglementation proposées et l'obtention d'un succès raisonnable ont été de plus en plus encouragés au fil du temps au Canada. Cette orientation a cependant peut-être eu pour résultat de détourner l'attention accordée aux grandes considérations des stratégies et politiques de réglementation intéressantes d'examiner, dans le cadre de la recherche sur les politiques, les conséquences de l'affectation de maîtres ressources gouvernementales à l'analyse technique des risques et des considérations économiques et du manque de ressources liées aux activités stratégiques et prospectives qui en résulte.

De plus, une importance accrue est portée à la compréhension des conséquences dynamiques sur les tendances de l'industrie et les courbes de l'emploi ainsi qu'à l'affinage.

Les responsables de la réglementation sont généralement passés d'une approche d'injonction et de contrôle de l'exécution à une approche axée sur les résultats. Plutôt que d'élaborer des règlements pour préciser la façon dont les industries doivent modifier leurs activités, la tendance consiste à définir un objectif de rendement où la méthode utilisée pour atteindre la conformité est choisie par l'entité réglementée. Ainsi, le *Règlement sur le soufre dans l'essence*, lequel a été adopté en 1998, décrit le niveau maximum de concentration en soufre de l'essence, mais ne prescrit pas de modifications précises sur le plan du raffinage.

caractérisé par une approche inclusive qui dépend largement de la consultation et de la participation des intervenants, de l'analyse quantitative (analyse coûts-avantages, évaluation des effets de la réglementation et analyse de l'incidence de la répartition des avantages), d'un processus de sélection des instruments amélioré et d'approches axées sur les résultats. Les décideurs sont donc mieux informés et outillés pour choisir un plan d'action, justifier la nécessité des interventions, choisir les instruments pertinents et réduire au minimum les effets sur la compétitivité. Plus particulièrement, ces efforts ont entraîné un renforcement des capacités d'analyse, d'évaluation et de reddition de comptes en matière de réglementation de sorte que les risques pour la santé humaine et les risques environnementaux atténués ou éliminés par la réglementation sont plus souvent quantifiés et même monétisés.

## Nouveaux facteurs : mondialisation, nature des risques et gestion de la réglementation

La comparabilisation de la répartition régionale des effets au pays. Cela signifie qu'en plus d'examiner les avantages et inconvénients d'un projet de réglementation, les responsables accordent une attention particulière à la répartition des coûts et des avantages prévus dans la population, entre autres les fermes

usines et les pertes d'emplois.

Les gouvernements doivent poursuivre leurs efforts en matière de recherche sur les politiques pour accroître la responsabilité, la transparence et l'efficacité. Le Canada et ses partenaires commerciaux s'adaptent cependant aux nouveaux facteurs qui modifient l'environnement dans lequel les gouvernements exercent leurs activités et qui posent de nouveaux défis pour les organismes de réglementation.

Étant donné l'évolution récente de la mondialisation et l'accent de plus en plus important que le phénomène place sur le commerce des services et des tâches, l'attention s'est dirigée vers le rôle de la réglementation comme déterminant potentiel de la productivité et de la compétitivité. Les activités de réglementation ont en effet une incidence sur le mouvement international des biens, des services et des facteurs, soit le capital et la main-d'œuvre, ainsi que sur l'innovation. Le renforcement de l'importation accordée à la coopération internationale en matière de réglementation a constitué une réponse clé à ce défi. Toutefois, en raison de la relation complexe entre la réglementation et la mondialisation, il faudra déployer des efforts additionnels pour assurer la pertinence

La nature changeante des risques technologiques, économiques et sociaux constitue également un nouveau facteur clé qui exige le réexamen du rôle des règlements et des processus de réglementation. Les changements technologiques rapides et les nouvelles plateformes technologiques (biotechnologies, nanotechnologies, etc.) créent de nouvelles formes de risque qui doivent être comprises et gérées par un cadre de réglementation. Les agents économiques, soit les sociétés, les gestionnaires, les travailleurs et les consommateurs, doivent s'adapter à un paysage économique de plus en plus fluide; leur capacité de s'adapter est essentiellement déterminée par le contexte de réglementation dans lequel ils exercent leurs activités.

L'émergence de nouveaux mécanismes de gestion de la réglementation constitue un nouveau facteur important. Les changements rapides sur le plan des technologies de l'information et des communications ont facilité la participation des intervenants à différents mécanismes visant à modifier le comportement des agents économiques et sociaux; ces mécanismes avaient pour objectif d'obtenir les résultats économiques et sociaux traditionnellement recherchés au moyen d'instruments de réglementation directs, comme des règlements dans lesquels est précisé le contenu d'un produit ou le mode de prestation de services. Dans l'environnement actuel, les agents économiques et les intervenants peuvent élaborer des stratégies, tenter des actions en justice, mettre en œuvre des mesures de boycottage ou lancer des campagnes d'information pour influencer sur les



# Stratégie réglementaire

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La réglementation constitue un élément clé du mécanisme d'intervention des gouvernements. Comme dans le cas des autres éléments de ce mécanisme, p. ex. l'imposition et les dépenses, les approches de réglementation se sont adaptées à un environnement qui évolue rapidement. Au fil du temps, les stratégies d'élaboration de la réglementation se sont transformées en fonction des conditions économiques, des changements technologiques et des nouvelles priorités sociales. Ainsi, l'émergence de marchés de plus en plus mondialisés a mis en évidence la nécessité d'un resserrement de la coopération internationale en matière de réglementation, p. ex. le vol de coopération en matière de réglementation du Partenariat pour la sécurité et la prospérité du Canada et des États-Unis. L'intérêt accru des intervenants pour les initiatives de

réglementation et leur participation plus grande à ces activités ont mené à des efforts soutenus pour accroître la transparence et clarifier la consultation (p. ex. l'émission de la nouvelle Directive du Cabinet sur la rationalisation de la réglementation de 2007). Les préoccupations quant à l'alourdissement du fardeau administratif pour les entreprises et les effets négatifs potentiels sur la compétitivité ont donné lieu à l'élaboration d'initiatives pour alléger le fardeau de la

réglementation, comme l'Initiative d'allègement du fardeau de la papeterasserie de 2007. Les réalités économiques et sociales d'aujourd'hui ont exercé des tensions additionnelles sur les attentes de rendement à l'égard de la réglementation. Parmi ces nouvelles tensions, mentionnons de nouvelles formes de risque découlant des innovations technologiques, p. ex. les biotechnologies, les nanotechnologies et les médecines parallèles, l'émergence de nouveaux genres de mécanismes de gouvernance, comme la politique privée et la responsabilité sociale des entreprises, ainsi que des préoccupations renouvelées quant aux effets des règlements sur la productivité et la compétitivité (p. ex. les problèmes liés au changement climatique). Ces nouvelles tensions mettent toutes à l'épreuve la façon dont le gouvernement élabore et met en œuvre ses règlements.

## Facteurs traditionnels

### de réforme :

#### responsabilisation,

#### transparence et efficacité

Au cours des dernières décennies, de nombreux pays de toutes les régions du monde se sont attachés à réformer leur régime de réglementation de diverses façons. Comme d'autres pays, le Canada a aussi plus particulièrement été actif sur le plan de la modernisation des processus et méthodes de réglementation pour assurer leur simplification, leur efficacité, leur efficacité ainsi que leur accessibilité pour les Canadiens<sup>1</sup>. Résultat d'importants efforts pour accroître la responsabilisation, la transparence et l'efficacité du système de réglementation, le processus de réglementation canadien est maintenant

1 Parmi les exemples d'initiatives menées au cours des deux dernières décennies figurent l'Examen de la réglementation du Ministère, la création du Comité consultatif externe sur la réglementation intelligente (2004) et la Directive du Cabinet sur la rationalisation de la réglementation de 2007.

Nous espérons que ce numéro de la revue *Horizons* encouragera les lecteurs à réfléchir de façon créative au futur rôle de la fonction de réglementation et que les idées qui y sont exposées contribueront au renforcement du cadre décisionnel.

effort additionnel. La meilleure façon de favoriser l'analyse objective consiste à encourager le professionnalisme et la transparence, c'est-à-dire les évaluations publiques de la réglementation.

Vic Adamowicz examine le rôle des instruments axés sur les mécanismes du marché et de l'analyse de la réglementation au Canada. Il soutient qu'au fil du temps, la performance du Canada a baissé par rapport à celle d'autres pays de l'Organisation de coopération et de développement économiques (OCDE) sur le plan de l'analyse de la réglementation et que le Canada vient tout juste de commencer à suivre le courant apparemment mondial de l'utilisation des politiques fondées sur des mesures d'encouragement. Les efforts actuels du Secrétariat du Conseil du Trésor pour renforcer le cadre institutionnel, par exemple la production de documents d'orientation, et la capacité d'analyse au gouvernement fédéral entraîneront une amélioration de la position du Canada.

Andrew MacDonald et Robert Raucher discutent de la contribution des analyses qualitatives aux processus décisionnels complexes. Un certain nombre de motifs justifient l'utilisation des analyses quantitatives pour évaluer les projets de réglementation, y compris les objectifs de transparence et de responsabilité accrues à l'égard du processus décisionnel ainsi que de renforcement de la capacité d'analyse. Une étude qualitative bien réalisée peut toutefois jouer un rôle analytique essentiel dans les domaines où les coûts et avantages ne peuvent être évalués qu'avec une importante incertitude.

exigences de nombreuses priorités concurrentes. En raison du manque de ressources gouvernementales, il faut s'attacher aux risques qui présentent la plus grave menace ou qui génèrent les plus fortes préoccupations parmi la population. Le classement des risques peut donc aider les organismes de réglementation à définir leurs priorités de façon efficace.

Notre dernier groupe d'articles porte sur la capacité institutionnelle.

- Jusqu'où l'utilisation de la méthode d'analyse coûts-avantages a-t-elle amené la politique publique et pour-quoi la mise en place de ce genre d'approche de l'évaluation devrait-elle être généralisée?
- Pour quelles raisons utilise-t-on les analyses quantitatives de la réglementation et les instruments axés sur les mécanismes du marché? Quelle est la performance du Canada sur le plan de leur utilisation par rapport à celle d'autres pays?
- Pourquoi les économistes, les analystes et les responsables de l'élaboration des politiques s'intéresseraient-ils à l'analyse qualitative si les mesures quantitatives donnent de meilleurs résultats?

Arnold Harberger fournit un aperçu de l'analyse coûts-avantages. La prise de décisions responsables au sujet de tout projet de règlement exige l'évaluation des coûts et avantages; il faut soupeser les conséquences sur un bilan bien défini et sur le bien-être. Au fil du temps, après d'importantes avancées, l'analyse coûts-avantages s'est étendue à d'autres domaines, comme les politiques en matière de santé, l'environnement et la planification des infrastructures. Il persiste toutefois de nombreux problèmes liés à l'utilisation de ce genre d'analyse.



Daniel Diemer étudie l'influence de la politique privée sur la capacité du secteur public de gouverner efficacement. La politique privée est l'utilisation des mécanismes du marché par des groupes

Christoph Bunting (avant-propos de l'honorable Donald J. Johnston) soutient qu'une fonction de gestion du risque sensible et participative est essentielle pour répondre aux préoccupations du public au sujet des risques et de leur gestion. De nombreux enjeux internationaux émergents, comme les nanotechnologies et la bioénergie, nécessitent une approche intégrée d'évaluation et de gestion des risques dans l'ensemble des gouvernements et des secteurs de la société. Cet état de fait a mené à l'élaboration par le Conseil international de gestion des risques (International Risk Governance Council - IRGC) d'un cadre de gestion destiné à aider les décideurs à comprendre et à gérer les risques. L'importante question de suivi qu'il faut se poser est la suivante : Quelles sont les options du Canada à titre de joueur actif sur l'échiquier international?

Deux auteurs étudient les facteurs de changement en tentant de répondre aux questions suivantes :

- Pourquoi le besoin d'une gestion des risques internationale augmente-t-il? Quelle est la meilleure façon d'appuyer cette gestion des risques dans le contexte des politiques des gouvernements nationaux?
- Comment l'émergence de la politique privée influence-t-elle sur l'environnement politique et sur la stratégie des gouvernements? Quelles mesures les gouvernements prennent-ils pour favoriser la transparence, la qualité et l'utilité?

réglementation? Quelles sont les innovations sur le plan de la capacité institutionnelle?

Bruce Doern examine le concept des budgets et des plans d'action pour la réglementation. Un budget pour la réglementation fixerait des plafonds pour les coûts des nouveaux règlements pour le secteur privé, en vue de maximiser les avantages nets de la réglementation. Sur

sions de remise en question du Canada?

- Quels sont les modèles et les critères à utiliser pour évaluer l'efficacité d'une fonction de remise en question des propositions de réglementation du Canada?

- De quelle façon les organismes de réglementation devraient-ils procéder pour élaborer des stratégies afin de classer les risques auxquels ils doivent faire face et qu'ils essaient d'atténuer?

- Un plan d'action et un budget pour la réglementation peuvent-ils favoriser un processus d'établissement des priorités et une gestion efficaces?

Trois auteurs s'intéressent à la gouvernance et tentent de répondre aux questions suivantes :

de militants plutôt que des règlements traditionnels pour modifier les pratiques commerciales. La politique privée constitue cependant une arme à deux tranchants pour les gouvernements, car elle peut contredire la politique publique existante. Le gouvernement doit se demander de quelle façon il peut influencer sur les règles de la politique privée, dans un scénario idéal pour le gouvernement, les groupes de militants deviendraient un mécanisme efficace du processus démocratique.

Baruch Fischhoff et Granger Morgan décrivent quant à eux le rôle potentiel du classement des risques dans l'amélioration de la compréhension des risques. La liste des risques pour la santé et la sécurité des Canadiens peut sembler sans fin, mais les ressources dont les gouvernements disposent sont assujetties aux

la fonction de remise en question, font l'objet d'un examen et d'une évaluation.

l'étendue du pouvoir de l'inter-vention, la transparence, du moment de l'inter-

l'indépendance, le choix de la capacité institutionnelle,

la clarté des objectifs, la

sieurs principes, comme

concurrentiel, et plusieurs

l'approvisionnement

politique et analytique et

séparation des fonctions

l'examen par les pairs, la

sion et la coopération,

men centralisé, la persuasion

modèles, comme l'exa-

damentaux. Plusieurs

sur certains points fon-

nants ne s'entendent pas

mentation et les interve-

les organismes de régle-

qu'il arrive souvent que

sont nécessaires parce

sions, les fonctions de remise en question

d'analyse et l'utilité pour la prise de déci-

remise en question. En plus de favoriser

la transparence accrue pour les Canadiens

et à l'affectation efficace des capacités et

ressources scientifiques.

de 2008. M. Doern soutient qu'un plan

d'action et un budget pour la réglementation

avec son engagement de créer un budget

s'est approché de ce mode de gestion

la scène internationale, le Royaume-Uni

institutionnelle?

plan de la capacité

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sont les changements

mentation? Quels

payage de la réglementation

et qui modifient le

forces qui définissent

Quelles sont les

# Enfin une stratégie en matière de réglementation

Morris Rosenberg  
Sous-ministre  
Santé Canada

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Directeur exécutif

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En mars 2008, un groupe de hauts fonctionnaires ont passé une soirée à discuter de stratégie en matière de réglementation avec plusieurs spécialistes et chercheurs universitaires. Ils ont facilement convenu que d'importantes forces redéfinissaient le domaine et qu'il s'imposait de réinventer ce que de nombreux observateurs qualifient de « vieux gouvernement » pour maintenir le rôle essentiel de celui-ci dans la définition de la société canadienne.

La réglementation a un rôle de plus en plus important à jouer dans la définition de nos actions à l'égard de l'environnement. Une série d'événements survenus au cours de la dernière année ont amené à l'avant plan les questions de la sécurité et de la salubrité alimentaires. La récente crise financière a également souligné non seulement l'importance de la surveillance par la réglementation mais aussi le besoin grandissant d'établir un cadre mondial. Étant donné la diversité des enjeux, la pertinence de pratiques qui se

sont avérées efficaces, mais qui peut être devenues désuètes, est remise en question. Parallèlement à cette réflexion, nous nous demandons si notre science qui informe les décisions réglementaires nous permet de gérer le niveau de complexité auquel nous devons maintenant faire face.

L'internationalisation des risques, les technologies émergentes, les nouveaux défis environnementaux, les instruments de gouvernance et la montée de militants ne provenant ni d'organisations non-gouvernementales ni d'entreprises ont considérablement modifié le contexte dans lequel les règlements sont créés et mis en œuvre.

C'est dans le but de fournir une analyse du dossier et de commencer à examiner les questions soulevées au cours d'une soirée que le présent numéro d'*Horizons* a donc été préparé.

Le présent numéro d'*Horizons* sur la stratégie réglementaire contient des articles sur des questions d'importance qui couvrent un large éventail de sujets connexes à l'élaboration de règlements. Il a pour objectif d'encourager la discussion et de peut être paver la voie à de nouvelles approches.

Les questions examinées peuvent être regroupées sous plusieurs thèmes : Quelles sont les forces qui définissent et qui modifient le paysage de la réglementation? Quels sont les changements en cours dans le domaine de la gestion de la









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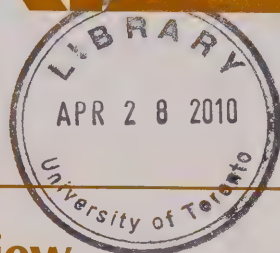
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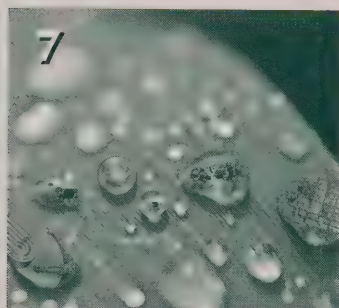




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## Bringing “Place” In – Exploring the Role of the Federal Government in Place- Based Approaches

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Canada’s size, its landscape, and population diversity define who we are as Canadians. But within our vast geography, differences in the aspirations of inhabitants from one place to another, unique local challenges, and ecologically defined spaces are growing in importance. New perimeters that eschew traditional political boundaries create a challenge for governments. This diversity of “places” becomes a formidable challenge to the operation of a national government.

Across the country, place-based governance initiatives have been emerging at an accelerating pace at the community, municipal, and landscape or watershed level. These “place-based” approaches develop out of the need to address what are often referred to as “wicked” problems: persistent socio-economic and environmental policy issues requiring a high level of collaboration among governments and with other players. We are rediscovering that economic competitiveness, social well-being, and ecosystem resilience depend, in large part, on collective behaviour in specific “places.”

While the federal government is part of a general movement bringing “place” back into policy, it has not yet developed a systematic approach for addressing issues with place as a focus. But, why is “place” hard to include in policy?

From regulating to facilitating, from leading to capacity building, or just being one of many partners, Canadians increasingly want to know how the federal government can help them in their “place.” It is not easy to reconcile all the potential roles the federal government can fulfil in a variety of places; to play the federal role effectively, we need to answer the following questions:

- When do federal organizations need to be at the table? What criteria would guide these decisions?
- How should federal departments coordinate efforts across diverse and potentially conflicting mandates within the same “place”?
- What accountability mechanisms for partnerships cut across jurisdictions and organizations?
- What are the appropriate instruments for the federal government to use in place-based approaches?
  - What does it take for the federal government to be an effective convenor on issues of place?
  - What are its opportunities and responsibilities as a generator and provider of data that inform place-based policy?
  - What particular provisions should be made when place has an aboriginal dimension?
- What tools and processes will help ensure place-based approaches better address complex issues and promote sustainable development?

Canada is not alone in either the intensification of the place-based approach or in asking important questions about how best to do it. The United States, Europe, Australia, and other countries are developing frameworks to guide place-based initiatives. These approaches are often led by community organizations in neighbourhoods or by stewardship groups in watersheds and by citizens who want to be engaged in the

places that matter to them and in finding solutions that seem appropriate. Place-based initiatives are often led by the private sector as well as by all levels of government.

In the past few years, provincial governments in Canada have created formal frameworks that specify the respective roles and governance structures of these new partnerships, particularly for land-use and watershed planning. These frameworks usually do not identify a role for the federal government, even though its responsibilities might impact or be affected by decisions taken. There have been significant examples of federal leadership in developing place-based initiatives. But, there is a growing understanding that greater integration and collaboration across departments, with other levels of governments and other partners, are necessary policy features to provide greater economic, social, and environmental returns.

Obviously, the federal government cannot physically be present in all places. But its presence can be made significant in various other ways. The federal government should examine the range of policy tools or instruments at its disposal to foster change, whether tax provisions or regulation, possibilities offered by new technologies, including the provision of essential infrastructure for building a

knowledge commons, for sharing best practices, and convening and facilitating partnerships.

This issue of *Horizons* originates from a sense that it is worth taking a strategic look at the federal role in place-based initiatives. As the authors who follow suggest, there is an increasing recognition that the complexity of today's policy problems requires more collaborative and integrated approaches, that policy decisions are interconnected, and that looking at place may help make sense of these connections. “Place” is where the impacts of decisions are felt, whether they are made in other countries, in Ottawa, or elsewhere in Canada. Citizens increasingly want to be part of the way solutions are defined,

and they are asking their governments for support. The context set by the relationships developed in the urban and rural communities in which they live and the ecosystems they are part of may determine how best to approach social, environmental, and economic problems and their interconnectedness.

**We are rediscovering that economic competitiveness, social well-being, and ecosystem resilience depend, in large part, on collective behaviour in specific “places”.**

Technological change also supports that trend. Data limitation has been one of the biggest constraints in creating policy at the “place” level. The combination of remote sensing, geo-spatial data availability, and Web 2.0 creates unprecedented potential in developing and sharing data and, more



generally, knowledge. Such changes blur the lines between government and non-governmental organizations; these changes also transform the way knowledge can be created and shared, uncovering the potential offered by better collaboration. Moreover, the development of software supporting data visualization and scenario building may change the way policy analysis is done, making policy integration simpler, within and across jurisdictions.

History shows the importance of federal leadership in building some of the needed pieces to solve the place puzzle. From the creation of the land capability survey capacity of the Prairie Farm Rehabilitation Administration in the 1930s to the more recent Canadian Remote Sensing Program, the federal government continues to be a world leader in technological innovation supporting social and environmental problem solving.

The articles in this issue of *Horizons* examine some of the questions raised above and offer possible answers and tools to help apply sustainable development principles at the level of place. A companion document on the PRI's web site shares examples of existing place-based interventions with a predominant focus on federal initiatives. This work will inform ongoing efforts to keep the national government's role vibrant in a more dynamic and complex policy world. ●

### ***Two Countries, One Forest***

*Two Countries, One Forest* (2C1Forest) is a Canadian-US non-profit organization created by scientists, conservationists, and funding agencies who responded to a need to protect the Northern Appalachian/Acadian ecoregion. The participants shared a science-based understanding of the threats to the region's natural resources and a commitment to landscape scale conservation. This approach values conservation science and landscape ecology alongside economic and sociological considerations in town or regional planning. *Two Countries, One Forest's* goal is to connect the ecoregion through a system of core protected areas linked by wildlife corridors critical to the ecoregion's long-term health, while maintaining economically and culturally vibrant local communities.

By working collaboratively, the organization facilitates the conservation work of partners at the local level while increasing the awareness and cooperation at the ecoregional level. Amidst a growing understanding of the cross-border responsibility to protect the ecoregion, *Two Countries, One Forest* works to address the jurisdictional and cultural challenges to landscape scale conservation planning across borders. A Science Working Group was established to form a scientific basis for their five key priority landscape linkages. The Working Group also produced an on-line interactive mapping tool containing over 30 new environmental datasets and base layers to assist land managers and conservation practitioners with conservation and land-use planning in the ecoregion.

A more detailed description of this initiative can be found on the Policy Research Initiative web site at <[www.pri-prp.gc.ca](http://www.pri-prp.gc.ca)>.

## Introduction

Place-based approaches to planning, policy design or program delivery are a collaborative means to address complex socio-economic issues through interventions defined at a specific geographical scale. Such approaches range from the management of large ocean areas, watersheds and other ecosystems, to programs addressing poverty, public health, immigration or homelessness. They have been part of the toolkit of several federal and provincial departments in Canada and in other countries for quite some time. The scales at which they are developed vary, depending on the issues being addressed. Place-based approaches have been initiated either by governments, citizen-led organizations

principles.<sup>1</sup> By focusing attention on policy issues as they play out in concrete geographic and community settings, place-based approaches provide a means to grasp complex and sometimes unexpected connections. They also provide a means to address challenges and opportunities where the impacts are directly felt. Watershed-based approaches to water policy, for example, can promote: the consideration of the needs of multiple users (in agriculture, industry and cities) and the multiple consequences of these uses; an understanding of the connections between health, transportation, Aboriginal and environmental issues; a scientific understanding of water issues combining the social and biophysical perspectives; and, collaboration between governments and civil society.

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# Integrated Place-Based Approaches for Sustainable Development

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This issue of *Horizons* provides a sense of the diversity of place-based approaches as they are applied in different policy areas, and identifies some of the lessons learned from an SD perspective. It also highlights emerging tools and processes available to support an integrated SD perspective on place-based approaches. One of the main lessons for Canada thus far is that integration, in the SD sense, is happening in an ad hoc manner, rather than systematically. While some place-based approaches have been designed to address SD challenges, it is still too soon to assess whether they are achieving the desired results. In general place-based approaches have been initiated to address issues from specific policy areas without much deliberate

or the private sector. Some are based on formal governance processes and decision-making arrangements, while others are more loosely organized.

Place-based approaches address social, environmental or economic issues and thus offer the promise of operationalizing Sustainable Development (SD)

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1 By Sustainable Development principles, we refer to the integrated consideration in decision-making of economic, social and environmental issues in a long-term perspective. For a more detailed explanation of the meaning of SD, see Meadowcroft and Bregha (2009).



consideration or integration of others. It is well known that integration of environmental considerations in other policy areas has been a challenge in most countries, but it is also the case that integration of social and economic considerations in environmental policy is limited. Place-based approaches have, however, brought a number of benefits. For example, they have increased local capacity to address complex policy challenges, provided incentives to develop new tools and processes through which socio-economic issues can be analyzed at meaningful spatial scales, and increased understanding of places and ecosystems (see Layzer on p.59).

Place-based approaches are getting increasing attention in many regions of the world, including the European Union and the United States, where they are providing an impetus for increased learning about existing and past experiences in different areas and circumstances. Other drivers such as technology, including the tools like GIS, networking and increasing accessibility of data enable greater differentiation in both understanding and responding to current and future issues on a variety of geographic scales. In August 2009, the US White House issued a memorandum “Developing Effective Place-Based Policies for the FY 2011 Budget” that looks at change drivers like population growth, urban expansion, and food security and aims

to design a “proactive strategy to promote economic and environmental sustainability.”<sup>2</sup>

Based on the articles presented in this issue of *Horizons*, what follows here is a review of some of the common features of place-based approaches, exploring the challenges they face, the benefits they can bring and opportunities for the federal government. We also present a conceptual framework to identify the building blocks or basic requirements of such approaches. We suggest that recurring chal-

lenges to place-based approaches can be overcome, so they can become a vehicle to develop and implement plans, policies and programs that foster sustainability across economic, social and environmental objectives. Examples of a number of place-based initiatives are provided throughout the articles, with a predominant focus on federal initiatives with more information available in a companion document to this issue, on the PRI website.

## Background

A number of parallel movements have been emerging in a variety of policy areas. Attempting to tackle environmental issues, the 1987 Brundtland Report, which popularized the concept of SD, established the need to consider simultaneously, or in an integrated fashion, important values such as the promotion of human welfare, the

preservation of ecosystems, inter- and intra-generational equity, and public participation in decision making.

The management of natural resources has also been going through a paradigmatic shift, focusing increasingly on the need to understand the multiple effects (positive and negative) of resource use on communities and on the biophysical properties of ecosystems. There have been calls for better alignment of planning and policy approaches at the scale appropriate to the problems in order to better account for these inter-relations and to bring together relevant actors, many of whom have a vested interest in the sustainable use of the resources on which they depend.

In social policy and infrastructure planning, there is an increasing focus on “place”, often the community (see Cook, this issue p. 35, see also Bradford, 2009), sometimes the municipality (see Harcourt on p. 50). As Cook suggests (this issue p. 35), “...patterns of disadvantage are increasingly spatially concentrated in a mutually reinforcing pattern...”. A better focus on these places can thus offer a means to better address a web of inter-related issues. From public health to immigration to fighting poverty, a number of policy challenges can be more effectively addressed by looking at them together at the relevant spatial scale. More generally, as Crane and Manville (July 2008: p.3) argue: “... a second broad category of community development challenges is characterized by spatial market failures, where specific places experience underinvestment and inadequate provision of spatial public

2 See White House memorandum on developing effective place-based policies for the FY 2011 budget, August 11, 2009

goods, including safety, education, transit, community identity, political networks, and the spatial externalities of geographically linked housing and labour markets.”

Bachtler in this issue (p.54) also highlights the theoretical underpinning of the renewed importance of place in economic analysis, or the new economic geography, “... notably the relationship between transport/trade costs and spatial agglomeration; endogenous growth theories, especially on the sources and territorial dimension of innovation; and institutional theories seeking to explain the capacities of economies to adapt and innovate.”<sup>3</sup>

Given the variety of issues that can potentially be addressed through place-based interventions, the scale at which they should occur is difficult to define a priori, as they are often issue driven. Nevertheless, new formal governance arrangements are emerging, particularly at the provincial government level in Canada, around water, resource use (forestry, fisheries), land-use and municipal planning, which can frame the spatial context in which the integration of economic, social and environmental considerations could occur.<sup>4</sup> In addition, citizen-based organizations developing out of community or regionally-felt needs are increasingly involved in trying to find solutions to their problems. A recent report found that thousands of such stewardship

groups have emerged to address environmental and resource use issues throughout Canada (Neave, 2009).

### Benefits of Place-Based Approaches

There is relatively limited empirical evidence of the outcomes and benefits of place-based approaches in Canada and elsewhere, and on the conditions that would make them work better. In most cases, the focus is on process, with an emphasis on the quality of democratic life, with less attention paid to evaluating the actual results of the approaches (see for example Leach, 2006 or Layzer (this issue p.59) for the environmental policy perspective.

Practitioners of place-based approaches in the federal government argue that some of the benefits that can be brought in integrating activities further in place-based approaches include<sup>5</sup>:

- Bringing increased relevance to government intervention given today's diffuse power realities and evolving notions of place;
- Achieving both specific departmental mandates and a collective sustainable development mandate as defined by the new *Federal Sustainable Development Act*;
- Improving service delivery and planning, reducing duplication and increasing efficiency;

- Connecting the federal government to what is happening on the ground;
- Avoiding potential conflict in areas of shared jurisdiction by clarifying roles and responsibilities, generating buy-in at all levels, and fostering motivation throughout federal government;
- Providing greater coherence between legislative frameworks. A focus on place could allow taking into consideration the cumulative effects of different regulatory frameworks, avoiding both duplication and incoherence; and
- Tailoring national approaches to appropriate contexts.

Although place-based approaches are believed to improve integration, and by extension Sustainable Development, there are many challenges to their maturation, ranging from a culture of specialization to the difficulty in collaborating between policy areas and sectors of society and therefore accountability. Governments and stakeholders are often seen as partners in such place-based arrangements, sharing responsibility and therefore accountability – to addressing jurisdictional issues. We review some of these challenges in the next section.

3 See also World Bank, 2009, for a recent analysis of the importance of place in a development context. Berdegue et al, this issue p.69, examines a specific case study.

4 Robins (2007) has identified close to a hundred formal governance structures developed by the provinces to manage water. This number does not include arrangements created for water by the federal government, alone or in cooperation with provinces or the United States, nor those that have emerged in other policy areas. See Osborne, this issue p.42, to get a sense of the range of existing provincial frameworks.

5 This workshop organized by the PRI brought together practitioners of place-based approaches in a variety of federal departments to better understand their challenges and the opportunities they offer.



## Challenges to Developing and Implementing Integrated Place-Based Approaches

A number of federal departments have been directly engaged in place-based approaches for many years. With the notable exception of integrated oceans management, which is mandated by legislation, these endeavours are not necessarily meant to be in existence for a prolonged period of time. And they are usually promoted to address single policy issues. The available evidence, both from federally-led initiatives and from other jurisdictions suggests a number of key challenges.

### Vocabulary

The notions of “integration”, and of ‘place’, can have different meanings in different contexts. Place can be understood as the neighbourhood, the community, the municipality, a forest or a watershed, to name a few. The meaning of place varies depending on the issues being examined, and the challenge is to recognize that the linkages between those different scales are important to consider. For example, the people living and working in communities depend on and impact the watersheds they live by.

Integration can refer to the need to better coordinate the activities of the different functions of an organization – e.g. in the federal government finances, policy-making, program planning, etc. In the context of place-based approaches to planning, reference is made simultaneously to a number of needs, adding to the potential confusion: the need to better coordinate between different governmental agencies in different jurisdictions or within a jurisdiction;

between disciplines; between sources and types of information; between interests/sectors; or between perceptions, attitudes and values (Slocombe and Hanna, 2007). While all these forms of integration are inter-related, the specific challenges of each form can lead to the development of different approaches. For example, solutions devised to address the need to integrate between different governmental agencies may not be the same as those solutions required to determine trade-offs between values. This said, there is general agreement that more collaborative approaches are needed to address integration challenges.

The notion of integration in resources management is often linked to concepts such as Integrated Landscape Management, Integrated Water Resources Management, ecosystem-based management or others. We refer here to place-based approaches to try to convey the message that there is a common focus on delimiting the inter-relations (often biophysical) of the resource management issues being looked at. In social or economic policy, however, the notion of place-based generally relates to specific socio-economic systems (such as communities or municipalities). The set of challenges faced by place-based approaches, however place is defined, are very similar.

### Diverse Problems, Players and Landscapes

The flexibility to tailor solutions to the problems being addressed is often seen as one of the main benefits place-based initiatives can offer. In many cases, this flexibility can also be challenging as each region or community may require

a tailored and unique arrangement, the success of which can be heavily dependent on the dynamic created amongst the key stakeholders and the scope of the issues that need to be resolved. In other words, there is no clear solution or approach; it needs to be crafted by those involved and often this means aligning and integrating a plethora of administratively disconnected organizations to form alliances of government departments across all levels, user groups, industry, citizens, academics and other stakeholders. Such a broad diversity of interests, sometimes in conflict, requires finding some common denominator for constructive processes. But a locally based coalition of interests may need to be challenged in order to foster truly beneficial public outcomes (see for example Berdegué et al., and Layzer, this issue p. 69/p. 59).

### Jurisdictional Issues and Regulatory Coherence

Landscapes, watersheds or ocean shores, or even municipal areas considered in a broad sense (e.g. the National Capital Region) rarely align neatly with jurisdictional boundaries, making place-based integrated strategies particularly challenging to develop and implement. Where the issues at hand reach across provincial and international boundaries there is increased complexity due to the different regulatory frameworks and data/monitoring regimes from each jurisdiction as well as the dynamic that each governmental organisation has created with a range of stakeholders.

Beyond geography, the provinces and territories have the authority to make many of the resource management or

social policy decisions. In many cases, however, federal departments have strong mandates and responsibilities linked to some aspects of resource management, such as in the protection of fish habitat or pollution control, the management of international aspects of resource management, or for socio-economic policy decisions which are felt most directly at a place level (for example immigration, housing, infrastructure investments, homelessness or employment training). The issue may be one of identifying and defining complementary interventions from different jurisdictions.

Different policies and regulations are developed over time and may have conflicting goals, within or between jurisdictions. Apart from those frameworks that support place-based approaches, which may not converge in intent (see Osborne, this issue p. 42), it is also possible to see in places more general contradictions led by the historical superposition of policy directions. Water policy and regulations in many countries provide a well known example of contradictions where the support provided to some sectors may increase water use while other policies may be at the same time aiming at water conservation, in the same place.

Finally, experience in many policy domains is indicating that the results of place-based planning, when such processes have been set up, do not necessarily inform decisions. This is perhaps the biggest challenge for place-based approaches ensuring that the

information developed through them is made available and is useful to decision-makers.

### **Knowledge and Capacity for Place-Based Initiatives**

Lack of information is often one of the limiting factors to sound decisions. Throughout Canada, there are often serious gaps in knowledge available at the desired scale, impeding effective analysis (see Cook, in this issue p. 35). Furthermore, specialized policy areas tend to address issues through their own assumptions and perceptions of knowledge needs, making integration across policy domains difficult. Practitioners are learning to cope with such limitations and are developing tools and approaches, such as scenario-building and visioning, to support planning and decision-making (see Bizikova and Waldick, this issue p. 81). There is however much to do build the necessary capacity to address complex, horizontal issues.

Fora or mechanisms for sharing best practices are also generally lacking (see Waldick, this issue p. 73). Information regarding place-based approaches that have led to successful (and unsuccessful) outcomes can be a valuable resource to other similar initiatives –

especially considering that such practices are still relatively new. Lessons learned from the more mature initiatives could provide up-and-coming ones with the much needed guidance and momentum to construct their own approach.

**Looking forward there is a need to seriously examine how new methods of knowledge creation, involving technological advances such as geo-referenced information and Web 2.0, as well as collaborative modes of enquiry and policy-making, can support place-based approaches to policy in the long-term.**

Place-based interventions are not necessarily planned for the long-term. Because they often rely on the participation of non-state actors, many of whom are non-governmental organisations, changes in the policy directions and levels of funding can have serious effects on the ability of place-based organisations to maintain an adequate level of activity (see for example Robins, this issue p. 64).

Looking forward there is a need to seriously examine how new methods of knowledge creation, involving technological advances such as geo-referenced information and Web 2.0, as well as collaborative modes of enquiry and policy-making, can support place-based approaches to policy in the long-term.

### **Mandates, Culture and Accountability**

Underlying most place-based challenges is the need for a range of actors, in particular within governments, to collaborate more effectively. There are a



number of difficult barriers to overcome in large, mandate driven organisations such as the federal government departments.

A recent event led by the Public Policy Forum and the Policy Research Initiative examined some of the barriers to collaboration. Among the obstacles, experts identified the culture of the public service as too often risk-averse, stifling innovative, flexible policy-making and delivery. It was also felt that the federal government is often a top-down manager of its partners, which is antithetical to the non-hierarchical spirit of collaboration.

“There was also concern expressed that Canada’s Westminster institutions, in which authority and accountability are arranged vertically, are poorly-suited to horizontal collaboration. Moreover, increasing scrutiny of the public purse by the media and public and the rigid accountability regime that is emerging are real obstacles to greater collaboration” (Gravelle et al., 2008: 5, see also Federal Family, 2009). The concept and practice of shared accountability needs to be more developed.

### Partnerships and Decentralization

Place-based approaches are sometimes seen as a means to decentralize decision-making and to promote more inclusive / deliberative forms of democracy. This can create ambiguity in the design of place-based approaches in that citizens involved in such processes may expect

changes in the ways in which decisions are made, especially if those expectations are not acted upon. Place-based approaches can promote a more informed approach to decision-making for sustainable development, irrespective of the ways in which decisions are made. But tensions between local and more centralized forms of governance and decision-making will probably remain an integral aspect of place-based approaches.

### The Building Blocks of Place-Based Approaches

While there is still a lot to learn about place-based approaches and the outcomes they bring, there is already rich material to build from.

The similarities of place-based approaches between policy domains are probably more important that their differences, allowing us to establish a set of core functions and mechanisms that can support them, thus making learning and policy development easier, and hopefully allowing the type of integration

required for SD. We have identified the following building blocks:

- *Criteria to address issues through place.* A place-based approach may not be needed to address all policy issues. Some criteria might be useful to guide policy design and planning to get a better sense of when it might be more appropriate to address issues through place-based approaches. For example, family

benefits can be directed to all families irrespective of their location, whereas programs targeting poor families might want to take into account the place in which they reside in.

- *Linking Scales.* A related challenge is to be aware of, and deal with, inter-relationships across scales. As Charles et al. argue (this issue p. 26) Oceans management, which occurs at very large scales, can build on community involvement, when those communities’ livelihoods depend on marine resources.
- *Knowledge production, tools and information-support systems to allow integrated analysis at any given spatial scale, as well as tools that help envision the future.* This includes in particular geo-referenced information, analysis and decision-support systems. As Thie indicates (this issue p. 16), Canada is a leader in this area, and technology exists to allow the widespread application of such tools in a number of policy areas. Better sharing of spatially-based databases that are often developed for specific policy purposes would go a long way to support integrated decision-making at various spatial scales.

Methodologies developed through trans-disciplinary research may provide a means to support the co-creation of knowledge, not only from different disciplines but also from different spheres of activities (e.g. government, NGO and academia), supporting data availability and accessibility at the appropriate scale. Waldick (this issue p. 73)

offers a number of suggestions on how to strengthen our capacities to do this.

- *Planning processes*, as Bizikova and Waldick, Sadler, and Noble show in this issue (p. 81/p. 95/p. 106) (e.g. Regional Strategic Environmental Assessments), can be specifically designed to foster the integration of economic, social and economic dimensions in policy design and planning. There is sufficient experience available to allow implementation of such approaches and technology can help to improve and develop capacity in this regard.
- *Mechanisms to foster collaboration between government departments and agencies*. As Bourgault suggests (this issue p. 88) there are a vast number of horizontal initiatives to learn from (see also Federal Family, 2009). The challenge is to select those that are appropriate to place, keeping in mind the need to ensure coherence at different levels of decision-making, from policy design to implementation. Several Public Service renewal reports have also made the point that the public service of the future will need to build on a culture of collaboration, which requires providing more incentives for such collaboration (see Federal Family, 2009).
- *Mechanisms to support inter-governmental collaboration*. Existing experience shows that such collaboration between bureaucracies is increasing and that there are a number of means to achieve such collaboration (see for example Johns et al., 2006). Different places and issues may

require different modes of collaboration, since leadership – when it is necessary for government to lead – may be taken by different government levels depending on constitutional mandates or other considerations. In water policy, for example, provinces may lead in watershed planning whereas the federal government may need to provide frameworks for international or inter-jurisdictional planning, play a regulatory role or that of facilitator, enabler, or science provider. More generally, all governments may play a number of different roles and functions depending on the type of issues involved.

- *Partnering with other social actors, including the private sector and other non-governmental organizations*. There is considerable experience across Canada at all levels of government in partnering using a wide variety of practices and methods. Sharing these experiences and capturing lessons learned about how to share responsibility and maintain accountability will support more systematic use of these arrangements.
- *Regulatory frameworks*. Places provide a unique lens to examine the intersection of policy and regulatory frameworks and the impacts they have on the people who live there and in the surrounding ecosystems.
  - As Layzer indicates (this issue p. 59), regulation, and environmental regulation more particularly, can provide an important leverage to ensure that collaborative place-based endeavors attain the objectives for which they were

established, rather than maintaining an unsustainable status quo;

- Place-based planning approaches can also reduce regulatory burdens in some circumstances by allowing ex ante consideration of potential risks brought by development proposals, such as those to populations or critical ecosystems. The early identification of such risks may reduce social conflicts at a later stage, such as those that can be experienced with the current application of Environmental Assessment regulations (See Noble, this issue p. 106, for a description of Regional Strategic Environmental Assessment).
- *Governance systems designed to tackle a diversity of tasks and support learning*. Governance, in the sense of clarifying roles, responsibilities and accountabilities, applies to all of the building blocks previously mentioned. As should have become clear by now, place-based approaches take many forms of collaboration from loose or temporary coalitions of interests working on an issue to sophisticated frameworks.
  - Flexible and adaptive approaches to governance is needed – allowing different actors to take on the roles they are best suited to deliver, given the objectives being sought, without compromising the ability of decision-makers to make the decisions that may be required. For example, the federal government might provide frameworks for information management and planning, without



necessarily needing to be involved in all the decisions that may result from the use of this information.

- There is limited experience to guide multiple departments in identifying objectives across mandates or policy sectors for the purposes of sustainable development.
- A lesson from Marine Spatial Planning (MSP) is that place-based approaches do not replace sectoral analysis, but provide a means to better integrate those approaches to allow a more holistic perspective, which is needed to operationalize SD principles. As Ehler and Douvère suggest (2009, p.22): MSP "...aims to provide guidance for a range of decision-makers responsible for particular sectors, activities or concerns so that they will have the means to make decisions confidently in a more comprehensive, integrated, and complementary way". The new *Federal Sustainable Development Act* may also provide a key driver for improved integration.
- Governance systems should be adaptive. They should be flexible enough to allow the integration of new knowledge and experience, (see Batchler and Layzer, this issue). To support learning a special emphasis needs to be put in measuring outcomes.

### Conclusion - Considerations for the Federal Government

At the most fundamental level, place-based approaches may provide opportunities to explore how a diversity of federal interventions can be guided by

SD principles, be tailored to specific circumstances, ensuring linkages at appropriate scales. The recent *Federal Sustainable Development Act* could provide an impetus for exploring this opportunity.

Increased attention to integrated place-based approaches could help accelerate the development of knowledge and methods to better analyze policy results and therefore development and the ability to evaluate cumulative impacts overtime, at different scales. As Thie suggests (this issue p. 16), Canada could build on its past experience and provide world leadership in facilitating the development of new knowledge infrastructures, shared by all users and supported by flexible governance arrangements.

More pragmatically, place-based approaches can help ensure Federal interventions are not duplicating or contradicting those of other actors, be they from other jurisdictions or civil society. This is not to say that contradictions or appearance of incoherence is necessarily a bad thing in a system where federal-provincial tensions express the democratic necessity in a federal system of providing checks-and-balances. The flip side of this is that place-based approach could allow, when desired, healthy debates over objectives such as SD goals or regulatory coherence.

Place-based approaches may allow the federal government to better align policy or program directions, often developed centrally, and regional staff experience in dealing directly with citizens or local/regional organizations. They can foster the development of a

culture of collaboration, which is increasingly needed in a world where information and computer technology not only makes it easy, but necessary, and where values are changing. They may also help to understand and address issues such as climate change and global population growth, whose greatest impacts will be felt at a local scale. (Layzer, this issue p. 59)

In parallel, place-based approaches may offer governments the capacity to better adapt to the increasing involvement of citizen organizations, which has been developing across the world in the last decades, and may help better identify where intervention is needed. Increasing citizen involvement in stewardship activities, in community development, or in other activities that have traditionally been seen as the role of government, will probably continue. This is of course complexifying the relationships between governments and citizens, blurring the division between those that govern and the governed, increasing the complexity of policy-making or program delivery, and changing expectations of citizens. This opens up new and yet unknown possibilities however, adding to the capacity to generate knowledge, for example, to develop new policy instruments, place-based approaches could help ensure government interventions are better coordinated, increasing the efficient use of public resources, making them as effective as possible, and better understood, at the local and regional levels. ●

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## Integrated Management under the Oceans Act

In 1997, Canada established the *Oceans Act* to manage all activities in or affecting estuaries, marine and coastal waters through the principles of sustainable development, integrated management and the precautionary approach. A pilot project designating large ocean management areas (LOMAs) serves as a planning basis for implementing Integrated Management (IM). Typically thousands of square kilometers in size, the LOMAs are characterized by the presence of living and non-living marine resources, a high biological diversity and productivity, and significant competing interests for ocean space and resources. To date, five LOMAs have been estab-

lished, with boundaries determined by ecological and administrative considerations. An IM plan defines social, economic, environmental and cultural goals as well as strategies and actions for the sustainable management of resources within a LOMA. Each LOMA is governed by a decision-making committee of Federal/Provincial/Territorial departments with the support of a coordinating secretariat, stakeholder advisory committees and expert working groups. This work is aided by new tools to understand the interaction of activities and cumulative effects, such as the Integrated Oceans Risk Analysis Framework and Pathways of Effects models.

A more detailed description of this initiative can be found on the Policy Research Initiative web site at <[www.pri-prp.gc.ca](http://www.pri-prp.gc.ca)>.



**Jean Thie**

President

Ecoinformatics International Inc.

## **Canada- Striking the Balance Between Opportunity and Limitation**

Canada is a land of extremes and contradictions that have set the stage for a series of unique initiatives and world-leading innovations in the science, technology, practice, and policy associated with ecosystem surveys. The second largest country in the world, with the longest shoreline and the largest wetland (Hudson Bay Lowlands), Canada actually has a very small land resource base suitable for agriculture; its climate and physiography severely restrict the capacity of its land for agriculture and forestry. Only five percent of the almost 10 million km<sup>2</sup> of land area in Canada is suitable for crop

Widespread conflicts over the sustainability of land and resource use sparked the federal and provincial governments to initiate the first wave of major programs and acts that used what we now call integrated ecosystem-based approaches. This paper provides thumbnail sketches of some of *past and present* “horizontal” policy and program initiatives and their impact, and explores future opportunities. All these initiatives use horizontal integration approaches enabled through a combination of:

- interdisciplinary ecosystem science;
- location-based integrated monitoring, assessment, and information systems;
- integrated policy and program management focused on national issues and results; and
- cross-sectoral and multi-stakeholder involvement.

Our core competencies and leadership in these key areas, combined with on-line knowledge management and social participation tools enable the next wave of innovation including broad-based societal initiatives like an integrated landscape management-based Sustainable Development Knowledge Commons.

## **The First Climate Crisis Adaptation and Mitigation**

Most settlement in Canada has taken place in the last 120 years. Accessibility by water and railway was the dominant factor in selecting land for use, and if settlement occurred on good agricultural land it was more often by

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# **Issue-Driven Integrated Landscape Management and Innovation in Canada**

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production (CLI, 1976) and only 25 percent is covered by commercially viable forests.

Land, water, and climate-based issues have driven Canada’s evolution from sectoral to integrated resource management and sustainable development, and made it a leader in geographic information, monitoring, and decision support systems.

**Figure 1**  
**Principle Zones of Soil Limitations for Agriculture in Canada**



Source: "....for land's sake" by David M. Welch, Lands Directorate, Environment Canada, Supply and Services Canada. 1980, Catalogue No. En 72-6/1980E: ISBN 0-660-10544-6. Page 12

accident than design (Coombs and Thie, 1979). The drought of the 1930s and the associated wind erosion converted much of the short grass prairie, which had been placed in cereal production during settlement, into a vast dust bowl. This "climate" crisis during the Great Depression, and related farm abandonment resulted in the *Prairie Farm Rehabilitation Act* (PFRA) of 1935. A land capability survey formed part of the PFRA program to provide the first ecological knowledge base for the conversion of cultivated semi-arid lands to ecologically more sustainable grasslands and community pastures. This initiative ensured more sustainable use by adapting land use practices to inherent climate and soil capabilities.

### **Non-Sustainable Land Use, Rural Poverty, and Farm Abandonment**

Rural areas continued to pay a high price for the settlement of marginal lands. The 1940s, '50s, and '60s were characterized by the use of science-based technologies, increased mechanization, and changes in market patterns that made only larger farms on good soils sustainable. A new round of farm abandonment started (in the 1960s at a rate of 10,000 per year), and poverty conditions emerged in rural Canada. In 1957, the Senate Committee on Land Use argued for an inventory of land classified with regards to its suitability for particular uses. Further impetus was provided by

Horizontal issues and solutions need compatible, horizontally integrated knowledge bases.

the Resources for Tomorrow Conference of 1961, which focused on regional approaches to economic development and stressed the interdependence of the use, development, and conservation of renewable resources (Rees, 1977), and recommended that a comprehensive land capability survey was a necessary prerequisite for the sound future management of Canada's land resources and the evolution of policy for economic and social development in all regions of Canada. The federal government responded with the *Agricultural Rehabilitation and Development Act* (ARDA) of June 1961 that provided the framework for federal-provincial agreements to co-operate in rural resource management and research projects to facilitate land use adaptation to improve social and economic conditions. While the title of the ARDA shows a continued agricultural land use bias, the programs and projects implemented under the Act reflect a systematic strategy toward integrated landscape planning, multiple use, and sustainable development.

### **The Canada Land Inventory: Accelerating Integrated Landscape Management for Rural Development**

In 1963, the federal government in consultation with the Canada Council of Resource Ministers approved the undertaking of the Canada Land Inventory (CLI). The CLI challenge was formidable.

It was to provide a comprehensive survey of land capability and use designed to provide a basis for integrated resource and land use planning, within



5 years, for the settled portion of Canada, approximately 2.5 million km<sup>2</sup>. It included cross sector assessment of land capability for agriculture, forestry, recreation, wildlife (waterfowl and ungulates), present land use, sport fish as well as pilot integrated land use planning projects in each province.

Guidelines for biophysical land classification were developed (Lacate, 1969) to provide the ecological framework and basis for the capability classification of the landscape. In addition, present land use was mapped as a baseline for regional planning and to measure land use change over time. This knowledge base would be summarized in over 30,000 land capability maps at scales varying from 1:1,000,000, (for strategic analysis and policy applications) to 1:250,000 (to support regional planning and analysis) and 1:50,000 (to support integrated land use planning and zoning).

## The Federal Role in, and Impact of, the Canada Land Inventory

The rapid program implementation required significant innovation in federal-provincial program co-operation, organization, and horizontal program integration strategies to allow for a "scale down" from national to provincial and regional perspectives. The federal government role (in addition to financing) focused on four goals.

- Develop a horizontally compatible and ecologically based classification and national survey standards.

**The CLI can be acclaimed as the single most significant federal influence on rural land use.**

Impact: The CLI capability classes 1 (best) to 7 (poorest) have become part of the land resource planning vocabulary.

- Facilitate and correlate national communities of practice in land capability classification and land use planning. Impact: The over 1,500 professional and technical staff involved in the CLI moved on after its completion to influential roles in regional planning, environment, and research, and facilitated its application in policy, programs, and projects.
- Provide national co-ordination of the survey and pilot land use planning projects. Impact: This

accelerated the development of provincial institutions and programs for integrated resource planning.

- Publish maps and reports, and create a national digital land resource database and system. Impact: The Canadian Geographic Information System (CGIS) designed for the CLI became the world's first GIS. Its digital maps are still accessible through the GeoGratis component of the Canadian Geospatial Data Infrastructure.

The provinces were responsible for implementation; they established the survey and land use planning teams and, ultimately, integrated the results in forward-looking, land resource management strategies, policies, and programs. Some provinces, such as Manitoba, established integrated teams

**Figure 2**  
Canada's Cropland CLI Class 1,2,3



Canada Land Inventory, Report No. 10. 1976. *Land Capability for Agriculture*. Page 7. Lands Directorate, Fisheries and Environment Canada, Ottawa

of agrologists, ecologists, biologists, economists, foresters, recreation specialists, land use experts, and planners to carry out the survey. British Columbia established the Land Use Committee and Secretariat to guide implementation. In all cases, these provincial solutions ensured the effective completion of the program and an unusually rapid integration of the results in policy, legislation, and planning.

The Canada Council on Land Use summarized progress:

The CLI can be acclaimed as the single most significant federal influence on rural land use. In sum, it would seem that "information" as a federal activity is more appropriate than "development" in contributions to joint Federal/Provincial efforts. The role of information has not been given the weight it should be. It is neutral, value-free as much as anything can be, and is available to all.<sup>1</sup>

By that time, CLI ratings of land capability had become common. The protection of Canada's prime lands became the focus of the federal policy on land use, and of provincial policies and legislation. The scarcity of prime agricultural lands influenced protective policies, legislation, and zoning in British Columbia, Ontario, Quebec, Prince Edward Island, and Newfoundland and Labrador. In these cases, the CLI helped set the agenda for the

policy and legislative initiatives, but it also provided the implementation framework.

As a complement to the CLI, the Northern Land Use Information Series (NLUIS) was developed in 1971 by the Lands Directorate and Indian and Northern Affairs as a rapid environmental and social reconnaissance mapping program for Yukon and the Northwest Territories. The map series included integrated information on wildlife, fish resources, Native land use, ecological land classification, and socioeconomic and cultural data. The maps assist with identifying potential land use conflicts, processing land use permit applications, and preliminary screening of the environmental and social dimensions of exploration programs and northern development.

## Ecoregions and Integrated Land Management - An Ecological Framework for Canada

The CLI did not cover two thirds of Canada. In 1976, to fill the gap, federal and provincial governments established the Canada Committee on Ecological Land Classification (CCELC) to continue development and use of a uniform ecological (biophysical) approach to land classification for resource planning, management, and environmental impact assessment. Over 600 specialists representing various governments, academia, the private sector, and non-governmental organizations contributed to its working groups and special products including the following:

**Figure 3**  
**Ecological Classification Linked to Levels of Planning**



Thie, J., E.B. Wiken, and C.D.A. Rubec. 1986. *Ecological land Survey as Basis for Land resource Planning and Management in Canada*. In *Land and its Uses - Actual and potential*. NATO Conference Series 1: Ecology Volume 10. Pages 437-452 Plenum Press. New York and London.

1. <<http://geogratis.cgdi.gc.ca/CLI/council.html>>, Council on Rural Development Canada 1979.



**Figure 4**  
**Ecoclimatic Regions of Canada**



Ecoregions Working Group, Canada Committee on Ecological Land Classification (CCELC) 1989 S.C. Zoltai, Chair. *Ecoclimatic Regions of Canada*. Ecological Land Classification Series No. 23. Canadian Wildlife Service, Environment Canada.

**Figure 5**  
**North American Ecoregions**



Commission on Environmental Cooperation (CEC) 1997. *Ecological Regions of North America*. Secretariat CEC, Montreal, Canada. ISBN 2-922305-18-X, Page 9  
[http://www.cec.org/files/pdf/BIODIVERSITY/eco-eng\\_EN.pdf](http://www.cec.org/files/pdf/BIODIVERSITY/eco-eng_EN.pdf)

- The Canadian Ecological Land Classification System and Survey was established to map and describe ecologically significant parts of the landscape and organize this in a format suitable for planning and management scaled from global to local levels.
- In 1989, the Ecoclimatic Regions of Canada project mapped broad areas of the Earth's surface characterized by distinctive ecological responses to climate, as expressed by vegetation and reflected in soils, wildlife, biodiversity, and water. This map is one of the most powerful tools available to develop ecosystem-based climate change adaptation strategies and scenarios for Canada.
- The Wetland Classification System and National Map provided the basis for monitoring wetland loss and the formulation of the federal policy on Wetland Conservation in 1991.
- Ecoregion and ecodistrict mapping for most of Canada was started, but terminated in 1988 when the Lands Directorate was reorganized into a sustainable development and a state of the environment reporting branch.

The Ecological Land Survey approach was applied in most of Canada's national parks, in major environmental assessments, and in developments, such as the James Bay hydro-electric project. In the mid-1980s, acid rain sensitivity in Eastern Canada was assessed using terrestrial ecoregions and districts.

In 1991, in support of the Green Plan and state of the environment reporting, the federal-provincial Ecological Stratification Working Group was formed to develop a national ecological framework for Canada, which was published in 1996. It is now widely used nationally and internationally as a strategy framework for policy, research, monitoring, assessment, and reporting.

### Managing Declining Migratory Bird Populations

The North American Waterfowl Management Plan (NAWMP) shows how integrated landscape management can be applied to continental issues and implemented locally, if supported by a credible knowledge base for multi-stakeholder partnership negotiations, setting strategic objectives, and developing implementation plans. The decline in migratory bird populations in the 1980s was linked to the loss of habitat (wetlands) in the critical flight ways in Western and Eastern Canada. In 1986, Canada and the United States signed the NAWMP agreement; Mexico joined in 1988. The Plan provides a policy framework for analyzing North American waterfowl issues and sets out a number of objectives relating to waterfowl habitat and populations. Joint ventures and financing from national and provincial/state governments, and substantial financial flows (almost \$300 million) from non-government and not-for-profit organizations in Canada and the United States were directed to wetland preservation and habitat improvement. This included financial support to farmers to

maintain critical prairie pothole habitat as part of the Prairie Habitat/Pothole Joint Venture.

### Sustainable Development and the Green Plan: Integrated Science Monitoring and Assessment, and Action Plans

In response to interest in the environment and sustainable development created by the Brundtland Commission Report, *Our Common Future*, the late 1980s and early '90s saw the development of significant integrated initiatives, some of which were reinforced by the 1990 Green Plan.

- **Integrated science and monitoring.** The Ecological Monitoring and Assessment Network (EMAN) was

part of a comprehensive strategy to integrate terrestrial, aquatic, and atmospheric monitoring networks, sites, and research across Canada. The goal was to provide a national perspective on how Canadian ecosystems are affected by the many environmental stressors, give scientifically defensible rationales for pollution control and resource management policies, evaluate and report to Canadians on the effectiveness of resource management policies, and identify new environmental issues at the earliest possible stage.

- **Sustainable landscape and forest management.** The Canadian Model Forest Network (CMFN) includes 14 model forest sites across Canada.

**Figure 6**  
**Model Forest Network**



Source : <<http://www.modelforest.net/cmfn/en/forests/>>



Each site involves numerous partners working toward sustainable forest and landscape management. Partners include forest companies, Aboriginal communities, private citizens, parks, environmental groups, governments, and universities. Model forests can be seen as test beds for interdisciplinary ecosystem science and participatory planning at the forefront of sustainable forest management. They provide a standard and window on sustainable forest management (SFM) practices in Canada and together with criteria and indicators of SFM provide public and international credibility to the Canadian forest management certification process. This effective Canadian initiative has been expanded globally in the International Model Forest Network involving over 20 countries and covering most continents.

- **Drainage basin action plans** like those for the Fraser River, Great Lakes, and St. Lawrence River provide effective mechanisms for horizontal integration of federal and provincial programs through co-operative and integrated management objectives and methods based on principles of sustainability. The concentration of significant financial flows, with a focus on clear results, have made these integrated action plans very effective.

## **Integrated Land Management and Location-Based Information**

The **Canada Geographic Information System (CGIS)**. The CLI generated over 30,000 maps! Traditional manual analysis, overlays, and presentation would significantly limit use of the data. Roger Tomlinson, universally considered the “father of GIS” worked with Spartan Air Services in Ottawa and explored with IBM in the early 1960s the link between maps, location-based information, and computers. A chance airplane encounter with Lee Pratt, the first Chief of the CLI led to a feasibility study for a geo-information system for the CLI.

- In 1963, the design work started for the Canada Geographic Information System.
- In 1965, the CGIS delivered the world’s first optical scanner capable of reading 1:30,000 maps into a digital form (now in the Museum of Science and Technology, Ottawa).
- In 1971, the CGIS became the world’s first fully operational GIS. It has a unique ability to overlay all CLI maps, integrate socio-economic layers, build continent-wide databases, and provide analysis at the national, provincial, regional, and local levels.

- In 1975, the CGIS became the first GIS to offer nationally remote access to interactive graphic analysis of its integrated databases.

Typical applications and use of the CGIS, combining CLI and many other data sets included (Thie et al., 1982)

**Land, water, and climate-based issues have driven Canada’s evolution from sectoral to integrated resource management and sustainable development, and made it a leader in geographic information, monitoring, and decision support systems.**

federal land use and wetland policy development; the North American Waterfowl Management Plan, supporting Canada-US negotiations; biophysical/ecological databases for national parks planning and management; land use monitoring (e.g., loss of high capability agriculture and wetlands around urban areas); mapping terrestrial sensitivity to acid rain; and spruce budworm damage monitoring and assessment.

### **The Canadian Remote Sensing Program.**

Parallel in time to the development in early GIS in Canada, the new field of airborne and satellite remote sensing emerged. In 1970, the Interdepartmental Planning Office on Remote Sensing obtained approval to modify the satellite receiving station in Prince Albert, Saskatchewan, to receive data from NASA’s Earth Resources Technology Satellite (ERTS). Exploration and increased environmental awareness moved the federal government to fund this initiative and ensure that Canadians would have equal or better access than their neighbours to this new

source of information about Canada's land and water, and forest and mineral resources. The first objective was to produce the remotely sensed data and information needed for natural resource and environmental management quickly and efficiently, and support research and development on the collection, processing, and interpretation of data.

The intelligent use of Canada's private-sector capabilities (including Computing Devices of Ottawa and MacDonald-Dettwiler and Associates Ltd.) enabled Canada to receive and process the first ERTS satellite images a week before NASA was able to do so. This achievement provided the foundation for MacDonald-Dettwiler and Associates to corner the global market in ERTS/ LANDSAT and SEASAT receiving stations. Through the Canadian Advisory Committee on Remote Sensing (CACRS), a loosely integrated federal-provincial program was developed that resulted in the establishment of provincial remote sensing interpretation centres, and centres of excellence at Canadian universities.

The early successes of Canadian technology at home and globally provided the basis for the successful development of the RADARSAT program and launch of Canada's all-weather radar satellites 1 and 2. Again, the first steps to a radar satellite were taken through an interdepartmental planning office. The Canadian geomatics industry received another boost in its competitiveness in global markets, exemplified by the global leadership position of MacDonald-Dettwiler and Associates

**Figure 7**  
Leaf Area Index from SPOT Satellite – Indicator of Carbon Absorption



< [http://ess.nrcan.gc.ca/ercc-rrcc/proj3/theme6/images/index\\_11.jpg](http://ess.nrcan.gc.ca/ercc-rrcc/proj3/theme6/images/index_11.jpg) >  
< [http://ess.nrcan.gc.ca/ercc-rrcc/proj3/theme6/index\\_e.php](http://ess.nrcan.gc.ca/ercc-rrcc/proj3/theme6/index_e.php) >

in building on its success in the convergence of remote sensing systems, GIS, and resource management.

**Canadian Geospatial Data Infrastructure (CGDI).** The federal Inter-agency Committee on Geomatics (IACG) has worked for many years to improve the collection, management, and integration of location-based information to enable improved decision and policy making. However, the Internet drastically changed the dimensions of what was possible. Canada was an early adapter with innovative initiatives like SchoolNet and Community Access. In 1994, the National Atlas Information Service (Geomatics Canada) launched the world's first GIS capability on the Internet, providing wide public interac-

tive access to national thematic, issue, and policy maps, and making maps from national databases, such as the National Pollutant Release Inventory, dynamic.

The launch of the GeoConnections Program in 1999 increased the accessibility and use of new technologies, like global positioning systems and web-based mapping. The CGDI was created to improve sharing, access, integration, and use of geographic information. The initial investment of \$60 million (1999-2005) leveraged an additional \$110 million to achieve these objectives. The second phase of the GeoConnections Program (2005-2011) has made integrated land management (ILM) one of its priority areas and



supported **IMAGINE Canada** (Integrated Management and Geospatial Information Network for the Environment) in facilitating the convergence of ILM knowledge bases, geospatial technologies, and decision support systems for national and regional applications. The **GEOIDE Network** (GEOmatics for Informed Decisions) funded by the Networks of Centres of Excellence Program (NCE) complements these initiatives by supporting innovative research and networking in geomatics across Canada. Its major thrusts include sustainable management of land and marine resources, natural hazards, and the environment.

## The Future: A Sustainable Development Commons

The last 20 years have set the stage and built the technologies for the next wave of innovation in ILM. The next two decades will see a paradigm shift when converging strategic technologies, societal issues, and a knowledge-based economy accelerate the development of an ILM-based sustainable development knowledge commons (SDKC).

Like ILM, an SDKC would be based on integrating the best interdisciplinary ecosystem science with socio-economic knowledge, best practices (in planning and adaptive management), and best policy development in a transparent multi-stakeholder participation process. The potential of the Internet for sharing data, knowledge, and online analysis, and promoting participatory systems provides a unique opportunity for society to develop

common solutions and renew interest in the old “commons” concept. The creative commons movement, and the **conservation commons** of the IUCN – The World Conservation Union – have set the stage for an ILM-based knowledge commons and infrastructure. IMAGINE Canada is a small strategic step in this direction.

The key components of the SDKC include a shared knowledge base, empowerment tools and best practices, and governance support tools and systems facilitating stakeholder participation and measuring performance.

The federal government should view the SDKC as a strategic opportunity to shift its role from traditional infrastructure to facilitating the new knowledge infrastructure critical for the new economy, sustainable development, and adapting to climate change. It should develop the strategic framework (perhaps through an interdepartmental planning office, which has been an effective vehicle for Canada’s remote sensing programs) to set the stage for a national leadership role. Leadership in the age of the Internet is a series of small, smart investments, and a business model, which enables all stakeholders to participate, share, contribute, and benefit. Many federal programs and policy initiatives could directly benefit from the horizontal integration and multi-stakeholder knowledge provided by an SDKC. Many programs like GeoConnections or GEOIDE could make significant contributions in shifting the orientation from data (a concept of the 1990s) to knowledge infrastructure.

Just imagine Canada when the power of social networking tools transforms knowledge networking and the visualization power of video “gaming” built on geospatial modelling and decision support systems, which can then be used to visualize future policies or landscape adaptation scenarios. ●

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## The GeoConnections Program and Place-Based Approaches to Landscape Management

GeoConnections is a national project currently being led by Natural Resources Canada that aims to help decision-makers tackle some of Canada's most pressing challenges through the use of geomatics. "Geomatics" refers to gathering, storing, processing, and delivering geographic information in sophisticated and interactive mapping systems. MapQuest™ and Google Earth™ are great examples of geomatics at work. GeoConnections advances the use of geomatics by supporting and expanding the Canadian Geospatial Data Infrastructure (CGDI), the system responsible for formalizing the structure and process for organizing, using and sharing geospatial data and services in Canada. To date GeoConnections has assisted decision makers with issues ranging from public safety and health, to the environment and sustainable development.

Governments at all levels are implementing comprehensive approaches to managing landscapes, ecosystems, watersheds, coastal zones, oceans, etc. Integrated landscape management (ILM) is often used to capture these holistic approaches. ILM is inherently a "place-based" approach that lends itself well to the use of geospatial data and geomatics technologies, especially when used in conjunction with forecasting and modeling

programs. Integrating the use of geomatics when dealing with place-based issues has contributed to better environmental assessment and land-use planning. For example the Nova Scotia Department of Environment has developed an online geomatics project-planning and decision-making tool to improve provincial environmental assessments (EAs). Similarly, Indian and Northern Affairs Canada in collaboration with the Government of the Northwest Territories have created the Mackenzie Gas Project (MGP) and the Mackenzie Gas Portal, making diverse government place-based data available to support decision-making associated with the pipeline development.

Geomatics technologies and geospatial data are key pillars to the successful delivery of place-based integrated management. As the use of place-based approaches increases there will be a corresponding increase in expectation of accuracy, currency and reliability of geospatial data from authoritative sources. There will also be a demand that geospatial data be easily integrated and analyzed without specialized expertise making projects like GeoConnections and IMAGINE Canada all the more important.

A more detailed description of this initiative can be found on the Policy Research Initiative web site at <[www.pri-prp.gc.ca](http://www.pri-prp.gc.ca)>.



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## Introduction

The Rio Declaration (1992, UN Conference on Environment and Development) flagged integrated management (IM) as vital to sustainable development, whether focused on coasts, oceans, watersheds, forests, or upland areas. However, the concept has evolved to encompass many more meanings. For example, it has been defined as a multi-disciplinary approach to reconcile sustainability of the biophysical environment with economic growth and prosperity (Olsen, 2003), and as a collaborative planning approach that addresses social, economic, institutional, environmental, and legal interests of multiple stakeholders and of the resources being managed (Christie et al., 2005). Com-

International guidelines for IM emphasize the principle of participatory governance, in addition to those of sustainable development and environmental protection (e.g., UNEP). Research around the globe has demonstrated that wide public participation is the key to success (Tobey and Volk, 2002: 290), but participatory governance remains one of the most neglected areas of IM (Kearney et al., 2007).

This paper, which focuses on ocean and coastal areas, explores the challenge of public participation by discussing the role of communities in IM. It draws on a decade of collaboration between academics and community partners to outline the community perspective on both the limiting factors and the opportunities, and a state-of-the-art survey of community involvement in IM, particularly in the Canadian Maritimes. The paper highlights the importance of linking communities and governments, and the need to overcome the growing disconnect between the two. It also illustrates the varied experiences of local coastal communities with IM through three concrete examples. These practical examples lead to two specific outputs: a set of fundamental IM values and attributes from a community perspective, and a four-step process for facilitating and enabling community-focused IM. The conclusion summarizes key outcomes in terms of inclusivity and active involvement of communities.

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# Integrated Management: A Coastal Community Perspective

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ponents that require “integration” include political and legal jurisdictions, ecosystem parameters, conflicting uses, social, cultural, and economic needs, different knowledge systems, and controls on anthropogenic impacts.

## The Challenge of Implementing Integrated Management

It is not surprising that governments, including those of Canada, have been slow to develop policy that fully reflects the aspirations of the Rio Declaration, particularly with regard to participatory governance. Several difficult hurdles must be overcome. First, single ecosystems usually fall under the jurisdiction of multiple authorities, and “the purposes for which authorities are statutorily permitted to act and their legal ability to cooperate with each other are sometimes restricted in ways that impede.”<sup>1</sup> Second, major equity issues arise when the profits and benefits of large-scale activities accrue to limited segments of society while costs are imposed on local communities and the environment. Third, there is no generally accepted framework for IM monitoring and evaluation; few IM initiatives identify results-based indicators. Fourth, IM initiatives are often large scale and focused on the space rather than the people (e.g., on large ocean management areas in the marine environment), which can disregard or be incompatible with the needs and aspirations of people living in those areas.

**Communities want long-range planning for alleviation of poverty, priority for local needs, and recognition of their rights to access local resources. This implies close attention to “ecosystem/ food-web” connections that exist between vital components of the ecosystem and community livelihoods.**

### Box 1

#### Comparing Definitions of Integrated Management

“a comprehensive way of planning and managing human activities so that they do not conflict with one another” and “so all factors are considered for the conservation and sustainable use of marine resources and shared use of ocean spaces...”

DFO, 2005: 11 and 19

“a continuous and dynamic process that unites government and the community, science and management, sectoral and public interests in preparing and implementing an integrated plan for the protection and development of coastal ecosystems and resources”

GESAMP, 1996, in Bastien-Daigle et al., 2008: 97.

From the government perspective, IM has tended to be defined more narrowly (as in the left hand side of Box 1), perhaps without highlighting the participatory collaboration and opportunities for co-learning that we argue will be key to overcoming IM barriers (compare with the right hand side of Box 1).

These challenges are daunting. To build institutions that can accomplish multiple levels of integration in natural resource planning will require linking existing government agencies both vertically and horizontally. However, government linkages alone cannot accomplish effective IM. Keen and Mahanty (2006) suggested that

IM must also involve open discussion of the values and objectives promoted in planning exercises for any given geographic area, as well as open sharing of relevant information, thereby providing the opportunity for wider knowledge and skill base sets to be used in decision making. We turn next to the pressing need to build these institutions in the Canadian coastal zone.

### Integrated Management and Canadian Coasts

Globally, coastal zones are under increasing pressure. A growing proportion of the world's human population lives on the coast, together with a majority share of human infrastructure and activity in industry, transportation and trade, energy processing, communications and services, and a disproportionate share of global consumption and waste production (Tobey and Volk, 2002: 287). But as coasts and oceans are also generators of vital ecological services, and home to much of the world's fish stocks, rapid coastal development

1 Gibson (2003: 128). For further references, see Kearney et al. (2007); Klinger (2004); Weiss Reid (2004); and Wiber and Kearney (2009).



## Box 2

### Multiple Levels of Integration in Coastal and Ocean IM

- Inter-sectoral integration that brings together agencies and groups from different sectors, such as fisheries, tourism, oil and gas etc.
- Inter-governmental integration that brings together the several levels of government (national, provincial, and local).
- Spatial integration that connects the land (including watersheds and river basins) with the ocean.
- Science-management integration that includes both natural and social sciences (and we would add traditional ecological knowledge).
- International integration that links local, provincial, and national regulations with international conventions and emerging standards (Cicin-Sain and Knecht, 1998).

and climate change threaten environmental quality and human welfare. Development also squeezes out long-time users of coastal areas, which leads to competition and conflict. These concerns are common to much of the world, and Canada is no exception.

International conventions and declarations guide management of coasts. This includes the United Nations Convention on the Law of the Sea (1982), the Convention on Biological Diversity (1992), and the Rio Declaration (Cicin-Sain and Belfiore, 2005). These conventions have highlighted the various forms of integration indicated in Box 2.

Canada responded with guidelines for coastal and ocean IM under the *Oceans Act* (Canada, 1996, Chapter 31), which authorizes the Department of Fisheries and Oceans (DFO) to work

“in collaboration” with other persons and bodies, including local stakeholders. But, as Canada’s Auditor General, the Senate Committee on Fisheries and Oceans, and various academic researchers have pointed out, this collaboration has not developed. Instead, IM approaches implemented without community support and buy-in have led to local opposition. This can be avoided, particularly through the adoption of a community-based perspective, as this paper illustrates.

### Community Perspectives on Integrated Management

For the past several years, a unique alliance of First Nations communities, fishermen’s associations, universities, and coastal resource centres has examined processes of integrated management on the coast, and building

local capacity for engaging in these processes. This has been supported by the Coastal Community University Research Alliance (CURA) project, which studies and shares lessons learned across the three Maritime provinces (Coastal CURA). The authors gratefully acknowledge the support of the Social Sciences and Humanities Research Council of Canada.<sup>2</sup>

The diverse initiatives in which our community partners are involved include ecosystem-based management plans (Malpeque Bay, PEI), watershed remediation (Bear River, NS), shellfish habitat restoration and restocking (Annapolis Basin, NS), harbour management (Saint John Harbour, NB), groundfish management (Fundy Fixed Gear Council, NS), aquaculture site planning (Southwest New Brunswick), and larger area management plans (SWNB Marine Resources Planning Initiative). The Coastal CURA has examined these real-world community experiences with IM, of which three illustrative examples are described here – one each from Nova Scotia, New Brunswick, and Prince Edward Island. In each, a problem is described, along with the relevant regulatory powers, the local institutions, community actions, and resulting lessons. We discuss the challenges arising from interactions between community and government, and the grass-roots success stories that highlight the different ways communities work toward a common goal of achieving IM.

2 Publications include Charles (2008); Kearney et al. (2007); Wiber and Bull (2009); Wiber and Kearney (1996); and Wiber et al. (2003, 2009).

## Harbour Management, Saint John Harbour and the Fundy North Fishermen's Association, New Brunswick

**Problem:** Environmental challenges for the international port of Saint John are numerous (agricultural and forestry run-off, pulp and paper mills, oil refineries, freighter and cruise ship terminals, harbour dredging and dredge dumping, and raw municipal sewage outflows). Rapidly expanding petrochemical developments and post 9/11 security measures also impact local users of the port, especially the inshore fishery.

**Regulatory Powers:** Numerous federal (DFO, Transport Canada, Environment Canada), regional (Saint John Port Authority), and provincial and municipal agencies have regulatory powers.

**Local IM Institutions:** Fundy North Fishermen's Association has prompted the formation of a number of ad hoc committees to address specific management harbour issues, including the impact of dredge dumping on migrating lobster, post 9/11 wharf restrictions, liquefied natural gas terminal development, and expanding harbour traffic causing gear loss. The committees include Dredging Dumping (led by Environment Canada), Saint John Wharfs (led by Small Craft Harbours/DFO), Liquefied Natural Gas Community Liaison (led by Canaport LNG), Harbour Traffic (led by Transport Canada/Port Authority).

Fundy North has been involved in planning and research, including environmental impact assessment, developing monitoring protocols, and evaluating tugboat and shipping damage to fishing gear and subsequently to lobster stocks. Overall, Fundy North found the existing consultation process frustrating, as there are no clear channels of responsibility and authority. Mitigating environmental impacts and juggling the multiple uses of the harbour requires more effective integrated management institutions.

**Community Actions:** A film was produced that captures community suggestions about how different stakeholders can work together in and around Saint John Harbour, including voluntary traffic separation schemes. The film has had wide distribution and media coverage, and has been a tool for dialogue.

**Lessons:** One government agency should take the lead in establishing an integrated planning board to facilitate harbour planning and operations. New management institutions and policy initiatives can be guided both by the local specificities in Saint John harbour and by best practices from elsewhere (see Wiber and Recchia, 2009).

## St. Mary's Bay, Nova Scotia: Shellfish Sanitation, the Annapolis Watershed Resource Committee and Beach Privatization

**Problem:** Land-based pollution and seasonal water quality problems led to toxins in shellfish and to the closure of productive beaches; habitat destruction and over-fishing have led to declining stocks.

**Regulatory Powers:** Environment Canada tests water quality and classifies shellfish growing areas; DFO controls harvesting, transportation, and cleaning of shellfish, and the opening and closing of shellfish growing areas. The Canadian Food Inspection Agency (CFIA) regulates handling, processing, marketing, and the import and export of shellfish, including depurated shellfish from closed beaches. The Canadian Shellfish Sanitation Program (CSSP) is jointly administered by Environment Canada,

DFO, and the CFIA. The provincial departments of Natural Resources, and of Fisheries and Aquaculture as well as municipal authorities also have regulatory powers.

**Local IM Institution:** The Annapolis Watershed Resource Committee (AWRC) was a multi-stakeholder management board facilitated by a local non-governmental organization, the Clean Annapolis River Project (CARP). Other members included the Bay of Fundy Marine Resource Centre (MRC), local clam harvester associations, Bear River First Nation, clam processors, and all levels of government. The AWRC collaborated with clam harvesters on habitat restoration and clam reseeded experiments and co-ordinated with municipal sewage and tidal



power authorities. However, the AWRC found that their efforts were challenged by beach privatization. Since 1997, one company has held an aquaculture lease for 1,682 ha of beach in St. Mary's Bay. So far, the company has only harvested wild stock and operates the only depuration plant for shellfish harvested from closed beaches in the area. As their primary source of clams is from closed beaches, the company has no incentive to improve beach habitat. Beach closures are also increasing. In 2008, most of the Annapolis Basin's beaches were closed to clamming because of changes to protocols surrounding wastewater treatment plant failure, further limiting local harvester access to clams.

**Community Actions:** Several initiatives have built local capacity, including a clam harvester project in 2005 that proved that reseeded clams was viable; some closed beaches were re-opened using collaborative information sources on water quality from CARP, Environment Canada, CFIA, DFO, and the clam harvesters; the AWRC was re-established; and the MRC played a role as facilitator.

**Lessons:** If public consultation processes established under provincial regulation had been followed in granting the aquaculture leases, this might have alleviated much of the local frustration and led to different outcomes. Local communities can and do develop effective and timely IM processes but require support from government to address the issues adequately.

### **Mi'kmaq Confederacy of PEI, Malpeque Bay Integrated Management Plan**

**Problem:** Malpeque Bay has been crucial to food harvesting, transportation, and recreation for PEI First Nations for thousands of years. More recently, the increased and varied use of Malpeque Bay has resulted in conflicts between tourism operators, aquaculturists, fishers, and others who rely on the Bay for their livelihoods or for economic development. While the region's oyster fishery depends on Malpeque Bay for most of the production of spat (juvenile oysters), environmental problems are increasing. Calls for expanded aquaculture in the bay will impact First Nations food and ceremonial fishing rights, and may be untenable given environmental problems.

**Regulatory Powers:** the federal DFO, Environment Canada, and Transport Canada, Indian and Northern Affairs Canada, and the CFIA; provincial Department of Aquaculture, Fisheries and Rural Development, and Department of Environment.

**Local IM Institutions:** The MCPEI is a not-for-profit tribal council and provincial territorial organization (PTO) for Lennox Island and Abegweit First Nations. The MCPEI board of directors created the Integrated Resource Management Directorate (IRM), one task of which will be to direct progress on the development of an IM plan for

Malpeque Bay. This includes identifying resources and stakeholders in the Bay, and collecting resource use data in the surrounding area.

**Community Actions:** The MCPEI undertook a survey of the historical resource use of the Mi'kmaq of PEI, including interviews and mapping of traditional Mi'kmaq resource sites. This began the process of defining a common vision for the Bay, which includes all community members, both First Nations and other stakeholders. A film is being produced to capture this vision and bring it to a larger audience.

**Lessons:** Developing an integrated plan for Malpeque Bay has proven challenging, as each group (government, non-governmental organizations, communities, non-Native fishers, and tourists) has specific ideas of what constitutes proper and sustainable use of Malpeque Bay. Government departments use their mandates to compartmentalize management effectively. An integrated approach to coastal management requires a leadership partner to encourage participation by all stakeholders, and to engage in positive steps toward successful attainment of the goal of IM.

## Analysis: Community Engagement in Integrated Management

The case studies described above reflect a range of experiences and of unique grass-roots perspectives of people who work to build community-centred IM institutions. We have documented a growing sense of urgency in communities, as declines in vital resource stocks and increasing environmental degradation affect livelihoods. Integrated management institutions and responses must develop more quickly and be built on a foundation of community support, if IM is to make a real difference to sustainability.

We see many instances of communities that recognize the value of IM processes and seek to initiate them. However, it is difficult for communities to take on such a leadership role, or for community-initiated processes to result in formal IM institutions. For example, in the case of the Saint John Harbour, fishers sought to have proper IM mechanisms put in place, but despite some progress on specific issues, through ad hoc committees, integrating this into a formal IM process has yet to occur. It needs to be recognized that good leadership, no matter where it comes from, is vital to a successful and sustained IM process, and that sometimes that leadership is to be found in local communities. Indeed, while institutional progress is often slow, there are local success stories. As noted in the case studies above, we have seen a diverse range of community-driven responses to local problems.

The experiences of our coastal community partners with IM demonstrate the linkages, or lack thereof, between efforts to address local problems by civil society, on the one hand, and policy development and implementation within governments, on the other. These experiences also highlight the need for better linkages between communities and governments with respect to the IM ingredients and processes that are valued, and the outcomes expected from IM (Wilson and Wiber, in press). This implies that if the potential of Canada's *Oceans Act* and similar legislation is to be realized, and implemented in a way that furthers the sustainable and equitable use of Canada's coastal and ocean resources, the disconnect between policy and public expectations must be addressed.

Our research on coastal experiences in the Maritimes has led us to a set of four major insights from a community perspective to rectify shortfalls in how IM is implemented.

### A Focus on Community Participation as an Essential Element of IM

A participatory approach to IM clearly requires careful consideration of who should be involved, how they should be involved, and how to support involvement. It is desirable to begin with broad community participation. At the same time, governments need to recognize the difference between types of stakeholders; indeed, the term "stakeholder" is not well received from a community perspective. Planning must

begin with those most directly affected, so "community" and "First Nation" become the important participants for most planning purposes.

### Incorporating Community Values into IM

Communities want long-range planning for alleviation of poverty, priority for local needs, and recognition of their rights to access local resources. This implies close attention to "ecosystem/food-web" connections that exist between vital components of the ecosystem and community livelihoods. Further, within communities, the total life cycle should be considered in protecting livelihoods, so people old and young have options in terms of phasing in or out of the process.

### Providing the Legal Space and Local Necessities for Effective IM Institutions

As a fundamental prerequisite, legal space must be made for integrated management. Sometimes, this will require changing existing legislation; other times it will require enabling legislation. The IM planning institutions should accomplish the following:

- Create space for deliberative debate in planning, to help overcome community "push back" that arises when planning is imposed from above without considering local needs and values.
- Take a long-range perspective on inclusivity (e.g., the recognition and authorization of local and First Nation rights), and focus on creating



a level playing field for participants so economic or political clout does not have a disproportionate voice.

- Aim for healthy linkages between community and ecosystems, and include a mechanism to have someone who speaks for the ecosystem; identify potential risks and risk elements, carrying capacity issues, and cumulative effects.
- Develop effective mechanisms for incorporating place-based knowledge into the planning process and for sharing information to facilitate “co-learning” (e.g., through public meta-databases and forms of university-community collaboration).

### Reflecting Multiple Scales in IM Governance

It is important to consider multiple spatial scales in IM. While there may be a tendency to take on large areas (such as large ocean management areas), these may seem too large and lacking in focus when viewed from a local scale. Focusing instead (or in addition) on specific localities and specific problems can improve the efficiency of IM initiatives. Examples include dealing with land-based pollution that affects streams and beaches in the Annapolis Basin, or better planning for Saint John harbour. The “scaling up” of smaller, more focused initiatives, and IM institutions, to the regional and national level should be encouraged, potentially through suitable councils or other deliberative bodies. The resulting cross-scale linkages need to work effectively, since communities are keen to see the resolution of jurisdictional quagmires.

### Community-Focused Ingredients for Effective IM

Several key issues have emerged among the Coastal CURA partners as crucial to moving IM forward. First, it became obvious that reducing conflict and ensuring environmental sustainability could not come at the expense of local level benefits or the loss of social equity among users of public resources (Cicin-Sain and Knecht, 1998: 129). Second, community partners feel that to avoid inequitable outcomes, IM must be a collaborative process where actors negotiate public policies based on multiple criteria and participatory decision making for a given coastal or marine ecological area (Turner, 2000). Increasingly, the Coastal CURA team saw this process as involving the Canadian public in discussions of value systems and objectives that any planning exercises would then promote (Keen and Mahanty, 2006: 502).

### Community-Focused Values and Attributes of IM

The Coastal CURA sought to address key questions in relation to what is meant by IM: What does IM look like in practice? What are the desired outcomes? How do you measure IM progress? As one exercise, we focused on those elements that best describe key values that should drive IM as well as key process attributes. These elements are listed below, expressed in the powerful language of our community partners, who both articulated these attributes and grouped them under themes of values, governance, management decision making, and outcomes.

- **Values:** Intergenerational respect; building consensus; deeply informed by Indigenous perspective; place-based; community as advocates not clients; inclusive; respect for human rights; consideration for all stakeholders’ values; food security.
- **Governance:** Reclaiming local authority; driven by community values; community-level dialogue; learning centred; co-operative; self-governance; deep democracy.
- **Management Decision Making:** Relying on open communication with users; co-ordination; conflict resolution; keeping in mind “who benefits”; adaptive; protects what is good; includes resistance and political work; works with alternatives.
- **Outcomes:** Healthy and safe ecosystems and communities/people; less conflict; ecological sustainability; regional resilience and complexity/diversity; economies for the people; transformative change.

### Community-Focused Vision of IM

Given the above, the Coastal CURA developed a view of IM as a four-step process that allows for initiatives by both community and government.

- 1) Identify important values to be protected in the management process (e.g., local benefits, food security, regional economic and ecosystem health, consideration for all stakeholder’s values).

- 2) Empower debate at the local level, through a deeply democratic process, and including the voices of all stakeholders (not just the powerful).
- 3) Generate decisions and plans that are mindful of disruptive or cumulative impacts, address conflict (rather than sweeping it under the rug), and rely on open communication.
- 4) Result in resilient, ecologically viable, sustainable human and ecological communities in a way that is transformative and supportive of healthy local communities (e.g., by improving well-being, ecosystem health, diversity, and resilience).

## Conclusions

While the Canadian government has made global and national commitments to IM, implementation to date has not produced the desired results. The Coastal CURA team has identified several barriers or limiting factors to community participation in IM, as described in this paper (see also Kearney et al., 2007). Among the underlying issues is the fact that government and community seem to operate on different temporal scales (government IM is slow while community needs are immediate), often on different geographic scales (large, administrative space versus local place based), and with different purposes (co-ordinating intra/governmental processes and managing conflict versus addressing local ecological and social inequity and ensuring access to resources). Other challenges include lack of brokers

between community-level and government-level processes; in other words, troubles in “scaling up” to government and “scaling down” to community. Finally, the concept of community itself is an issue. If community is seen (wrongly) as something outdated and inefficient, it can be an uneasy fit with modern planning initiatives.

Integrated management is inherently value driven. Since values are not universal, any values underlying IM should first be made explicit, then articulated and debated. This is the core argument of deliberative democracy. We need to build (or support) the institutional settings for IM where this deliberation and debate can happen. To ensure that communities are at the centre of this renewal and implementation of IM, we propose that IM initiatives recognize the ingredients we have outlined in this document, notably support for a community-focused vision together with community-focused values and indicators of success. Particularly important is adoption of the four-step IM process outlined above, which needs to incorporate the four key insights needed to support community involvement in integrated management:

- a focus on community participation as an essential element of IM;
- incorporating community values into IM;
- providing the legal space and local necessities for effective IM institutions; and
- reflecting multiple scales in IM governance.

These considerations all support the key message of this paper: a call to achieve the broad potential of the IM concept, particularly the potential for inclusivity and the active involvement of communities. It is clear from our research that feasible IM mechanisms can involve communities that have their own valid conceptions of IM and undertake successful IM-oriented projects at a local scale. The Coastal CURA, in continuing its work to support community involvement in IM, will be undertaking participatory research, capacity building and knowledge transfer, film-making, community participation techniques, community geographic information systems, comparative case studies, and the development of an appropriate set of indicators of success in IM. In the course of this work, we look forward to engaging, as individuals and as a team, with government departments and others, across agencies and communities, and across horizontal and vertical boundaries. ●

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Cities experience the effects of globalization most acutely. Accompanying the shift to a post-industrial economy are issues of rising income inequality and entrenched patterns of poverty. Meanwhile, a growing demand for labour coupled with greater international mobility leads to rising immigration and ethno-cultural diversity in Canadian cities. Of particular concern is the degree to which poverty is now concentrated among minority populations and how, increasingly, these patterns of disadvantage are spatially concentrated in a mutually reinforcing pattern that poses challenges to social cohesion in Canada's largest cities.

government structures are not well-suited for addressing the complex nature of contemporary urban issues. Governments tend to be vertically organized with policies developed at senior levels and implemented through centralized branches with little co-ordination. However, issues such as income inequality, poverty, or diversity, for example, intersect with immigration policy, the labour market, social welfare, and income redistribution activities, each the purview of different stakeholders. Such issues are what Bradford (2005: 4) referred to as "wicked problems," defined as ones that "cross departmental boundaries and resist the solutions that are readily available through the action of one agency." The horizontal complexity of many issues thus seems to be at odds with the vertical organization of government.

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## *Donec Prohibiti, Procidite:* Building a Knowledge Infrastructure to Support Place-Based Policy

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While these emergent issues seem to require new social policies and programs, governments face challenges in mounting effective responses as existing

Moreover, government interventions in the social policy arena have typically been population-based where, in the interests of equity, services are delivered uniformly to target populations, irrespective of place. Although early globalization theorists suggested that the global economy was eroding the uniqueness of place, it is becoming recognized that the characteristics of many issues are place-specific; while the new economy functions at a global scale, the specific way it impacts localities is influenced by the local socio-political culture (EACCC, 2006; Tsukamoto and Vogel, 2004). Effective social policy requires that policy makers pay



attention to the specific contexts of place in a way that a-spatial, population-based approaches cannot.

## **Place-Based Responses to Complex Urban Social Issues**

In response to this new urban reality, a “place-based” approach has emerged to develop strategies that respond to the unique characteristics of places as opposed to populations. Place-based strategies are unique to a specific locale, involving a range of stakeholders to achieve a specific objective. Torjman (2009: 1) defined it as “a range of efforts that seek to achieve a desired objective through interventions in the neighbourhoods and communities where people live.” The concept of subsidiarity underpins such approaches; it asserts that “governments” roles and resource bases should move to the most local levels at which they can operate effectively. Decisions are best made as close to service consumers and taxpayers as possible” (EACCC, 2006: viii-ix). Thus, place-based strategies not only need to consider the local context, but they need to be activated locally with the participation of local decision makers as a matter of both efficacy and principle.

In this paradigm, places are not only unique, they have considerable capacity, but the exercise of that capacity requires increased flexibility in policy and decision-making processes to tailor them to local contexts in a way that facilitates horizontal action. It is only at

the local level that partnerships required for such action can be forged as higher orders of government are too far removed, lacking the requisite local knowledge. The role of government in this approach shifts from director to convener, establishing collaborative relationships among a variety of actors to address common challenges. Stein (2006) argued that federal systems are well suited to this form of governing as federal and provincial spheres necessarily overlap requiring collaboration that creates space for local decision making. What is absent from this federal system, however, is the formal recognition of municipalities as meaningful partners.

## **The Need for a New Knowledge Infrastructure**

Although communities (municipal governments and non-governmental organizations) are central to place-based approaches, their capacity for meaningful engagement has been hindered. Federal and provincial policy changes during the 1990s compromised municipal capacity as fiscal retrenchment led to downloading responsibilities without additional fiscal or policy capacity (EACCC, 2006). Similarly, the non-governmental sector was increasingly relied upon to deliver services within a funding regime that failed to build its capacity to do so adequately (Phillips, 2009; Scott, 2003). Meanwhile, both sectors were required to demonstrate greater accountability along with requirements for decisions

to be “evidence-based.” Communities, however, typically lacked the data required to facilitate effective planning or satisfy these demands for accountability. Like the fiscal imbalance, a data imbalance existed where communities lacked information precisely when they most required it to meet their new responsibilities. In this context, four important data issues emerged; relevant geography, data access, institutional capacity, and local relevance.

While important for consistency, Statistics Canada’s Administrative and Statistical Geographic Units sometimes have little local relevance. The Census Metropolitan Area (CMA), typically the unit of analysis for cities, does not correspond with municipal jurisdictions. Similarly, small-area urban geography is collected and disseminated by census tracts, which have little resonance with local stakeholders who understand their communities in terms of neighbourhoods. Not only does this render data difficult for local actors to understand and use, it hinders their ability to collaborate with other orders of government and impairs the ability of senior orders of government to gain the local knowledge that effective place-based approaches require. There are however initiatives that are attempting to address such issues.<sup>1</sup>

Further, while communities faced growing fiscal pressures, an increasing cost-recovery focus by Statistics Canada impacted their ability to access data due to cost. Not only did many lack

1 Statistics Canada and Infrastructure Canada, with funding from the Policy Research Data Group, are developing a methodology to identify human settlement patterns using the most disaggregated geographical unit of the census (the census block). This initiative creates a new series (2006 Census-based maps) of spatial datasets that track, with improved precision, all settled areas in Canada; new, comprehensive indicators will enable analysts to characterize and measure the key dimensions and trends of growth patterns of all built-up areas in Canada, using the most recent geographic information system (GIS) technology.

access, they also lacked the capacity to use data effectively along with the ability to build such capacity due to reduced funding. There was little local input into how data were collected, analyzed, or disseminated; important data from a local perspective may not be a priority for the federal or provincial governments, and either not reported on or even collected. Thus, while increasing analytical precision was required to understand the conditions of specific sub-populations in specific areas, such data tended to be unavailable at relevant geographies, requiring custom orders which were cost-prohibitive.

### **Building a Pan-Canadian Knowledge Infrastructure: Two Case Studies**

To address this knowledge gap, two overlapping projects emerged: the Community Social Data Strategy and the Quality of Life Reporting System (QOLRS). Recently, these two overlapping networks jointly developed The Municipal and Community Data Access Initiative. Through these initiatives, communities work collaboratively with Statistics Canada to increase access to information and more effectively engage with senior orders of government.

#### **The Community Social Data Strategy**

The CSDS is an initiative of the Canadian Council on Social Development (CCSD) that makes a wide range of statistical data available to communities at reduced cost. Communities participate by forming a data consortium consisting of a lead organization (typically the municipality) in partnership with local non-governmental organizations.

The initiative arose following the 1991 Census, which revealed growing levels of poverty, leading the CCSD to produce a report on urban poverty in Canada. In producing this report, CCSD worked closely with communities and found that most did not have access to local data.

In light of this, the CCSD looked for a way to increase data access that would enable communities to develop effective responses. Meanwhile, Statistics Canada was seeking creative strategies to increase data access, given the constraints of a stringent cost-recovery policy, and to build community capacity to use data effectively. This led to the negotiation of an access agreement between the CCSD and Statistics Canada, and the establishment of a network of data consortia known as the Community Social Data Strategy (CSDS). The objectives of the CSDS were to:

- purchase data and facilitate access;
- train people and build capacity to use data; and
- communicate and disseminate the resulting research.

The CSDS now represents a pan-Canadian network of 22 local consortia with 258 organizational members representing a broad cross-section of municipal governments and non-governmental organizations. Through the CSDS, members have access to an array of

Statistics Canada data including custom tabulations and geographies that correspond to locally relevant city and neighbourhood boundaries, along with training and support in accessing and using data.

Data from the CSDS are being extensively used to better understand the conditions of specific local sub-populations as well as the spatial distribution of issues at small areas of urban geography in order to plan and evaluate programs and services effectively.

In Ottawa, data were used to project areas of high need for food bank services and identify under-served areas. In Montréal, an on-line atlas was produced providing a more understandable way to interpret social data. In the region of Waterloo, CSDS data informed the report, *A Commu-*

*nity Fit for Children: A Focus on Young Children in Waterloo Region*, profiling the health and well-being of local children and families. In Vancouver, CSDS data informed the Housing Data Book, which assists municipalities in responding to local housing needs.

The partnerships facilitated by CSDS membership have also sparked new forms of collaboration. In Calgary, the local consortium co-ordinated efforts to establish a regional population health observatory, and the development of standardized geographical service areas that facilitated more effective joint planning between the partners.

**Effective social policy requires that policy makers pay attention to the specific contexts of place in a way that a-spatial, population-based approaches cannot.**



Nationally, members increasingly use the CSDS network as a vehicle for sharing best practices in social development.

In addition to service planning, the CSDS also informs policy. At a local level, CSDS data were used extensively to support the development of a living wage policy in Calgary. In Victoria, CSDS data informed the report, *Poverty and Inequality in the Capital Region of British Columbia*, which reviewed the effectiveness of poverty reduction strategies to stimulate action in the community. The degree to which it has influenced policy at higher orders of government is unclear. John Anderson (2009), former CCSD vice-president of strategic partnerships, suggested that the improved understanding of poverty resulting from the CSDS contributed to the development of provincial poverty reduction strategies. While the impact on federal policy is even less clear, he posited that the availability of local data has supported a more nuanced policy analysis, and the increased interest in place-based approaches may be partly due to more local data being used effectively by communities.

### The Quality of Life Reporting System

The Quality of Life Reporting System (QOLRS) is an initiative of the Federation of Canadian Municipalities (FCM), which uses local data to moni-

tor changes in quality of life. The project is driven by a network of member municipalities that collaborate to develop and report on a range of indicators. The system relies on the collective purchase of census data, supplemented by unique data collected through a

municipal survey. Currently, 23 municipalities participate in the QOLRS across Canada.

In contrast with the CSDS, the QOLRS was conceived as a policy, not a data access initiative. The original objective was to report on the impact of downloading and social cutbacks on communities. The project was initiated by several member municipalities that deter-

mined that the FCM required an evidence base with which to formulate and articulate relevant policy positions effectively. The first quality of life report was published in 1999 with stated objectives to:

- identify and raise awareness of issues affecting quality of life in Canadian communities;
- better target policies and resources aimed at improving quality of life; and
- establish municipal governments as a strong and legitimate partner in public policy debate in Canada (FCM, 1999).

A second report was issued in 2003, along with several theme reports on various issues including immigration

and affordable housing. As Canada enters a new era of possible fiscal retrenchment, the FCM is relying on the QOLRS to demonstrate the effects of previous cutbacks on municipalities and highlight the potential impacts of any new round of downloading.

Although originating as a policy tool, the QOLRS has also become an important data source. Burrett (2007: 163) noted: "Disaggregation using municipal boundaries is one of the unique features of the QOLRS. Most analyses of 'local' issues outside the QOLRS system are done at the level of Census Subdivisions and Census Metropolitan Areas, and hence do not necessarily reflect the issues that a given municipality faces." The ability of the QOLRS to acquire data relevant to local needs and at relevant geographies makes it an increasingly important repository of information for local planners and decision makers.

The ability of the system to connect sectors within and between communities has also become an emergent objective. The municipal survey requires municipalities to engage various stakeholders in collecting data and thereby facilitates horizontal local linkages between municipal departments, as well as other sectors and stakeholders. At a national level, the QOLRS has produced a functioning pan-Canadian network of planners and policy makers who share practices and build collective knowledge.

## The Municipal and Community Data Access Initiative

Given the challenges in accessing relevant local data, the CSDS and QOLRS are collaborating on the Municipal and Community Data Access Initiative to enhance data access and improve communication between data providers and community data users. A working group with representatives from the FCM, CCSD, and Statistics Canada produced a strategic plan with specific objectives around the broad goals of supporting effective communication, providing enhanced data access and broadening data supply. This initiative supports and formalizes the growing interaction between Statistics Canada and the overlapping QOLRS and CSDS networks. At its inception, the informal motto of this initiative was *Donec prohibiti, procedite* (proceed until apprehended) reflecting its position outside formal decision-making processes but tenaciously asserting a right to be included.

## Key Lessons and Implications for Policy

Based on this review of these initiatives, five key points can be drawn for the development of successful place-based strategies.

1. Place-based approaches require a supporting knowledge infrastructure.

In a global economy, where knowledge is the driver of economic activity, the existence of a strong knowledge infrastructure is critical for policy and planning at both the local and national levels. For communities to address the complex issues now confronting them,

they require timely access to data that are contextually and spatially relevant. Anderson (2009) noted: "If we want a place-based policy approach, we need access to the data. If we develop policies in the absence of data, it almost guarantees failure. While access to the data doesn't guarantee success, it's a key tool for increasing the odds of success."

Recent initiatives by Statistics Canada improve access through the provision of on-line data at the census sub-division and census tract levels. Acquiring consistent data at levels of geography relevant to communities, however, remains a challenge that will require ongoing collaboration between Statistics Canada and local data users.

2. Capacity-building investments are needed.

Through the CSDS and QOLRS, communities have proved to be increasingly adept at using data to tell their own stories, becoming much more articulate, and better able to understand their situations. However, continued efforts to build local capacity to use data are needed. Michel Frojmovic (2009), lead consultant to both projects, noted that, while data has become more accessible, "the amount of data available is overwhelming, and this can be intimidating. One principal barrier to using the data is just knowing what you can do with data and how it can support your work." In the case of the CSDS, Doug Norris (2009), former Statistics Canada Director General of Demographic and Social Analysis, commented: "The data were not provided in a user-friendly format, so a lot of communities received the data but had little idea of how to use it. Even if

all data were available free, most people still didn't have the capacity to use it." Ongoing support to further build the capacity of communities to use data effectively will enhance this emerging local asset base.

3. Networks require leadership that must be resourced.

While globalization and the organizational and fiscal challenges of government have created barriers to collaborative action, the CSDS and QOLRS networks demonstrate the capacity for such collaboration by harnessing local leadership to mobilize resources and garner local support. For the CSDS, Scott (2009) noted: "One of the key success factors was the existence of a local lead organization that was interested in assuming a leadership role. This depended to a great extent on the presence of individuals who saw the benefits of the program and wanted to move it forward." For the QOLRS, this assessment was echoed by FCM Director of Policy and Research, Michael Buda (2009), who stated that "the success of the project has largely come from the fact that it is community-based, with people engaged at the local level." Most members, he noted "are doing this 'off the side of their desk' without a lot of institutional capacity and support. What keeps it going is the commitment of individual people in the project." While local leadership is critical, both initiatives also required strong national organizations to spearhead the projects and provide overall leadership. The success of these initiatives hinges on the strength of each of the partners and weakness in any one would jeopardize



the project; strengthening these networks requires both financial and organizational investments.

#### 4. Relationships matter.

The ability of a lead organization to harness its pre-existing relationships with a pan-Canadian network of member organizations facilitated the establishment of the CSDS and QOLRS. The lead organizations were also well-positioned to play a bridging role with Statistics Canada due to their prior relationships with the statistical agency. In the case of the CSDS, an access agreement was possible due in part to the CCSD's ongoing relationship with Statistics Canada and its credibility in producing sound research using Statistics Canada data.

Success also hinged on the ability to expand the sphere of collaboration and establish new relationships. In the case of the CSDS, the consortium model was an explicit strategy to encourage collaboration between organizations. Scott (2009) stated that this was based on a belief that "partnerships need to be built around something. This was something concrete (data), so people could immediately see the value in the partnership. People came for the data, but used that as a nexus around which to organize." In both cases, the instrumental activities of data collection and access required horizontal collaboration that led to more strategic action as partners gained experience working together and were able to identify mutual interests.

5. Integrating the knowledge of networks into decision-making processes of hierarchical structures remains challenging.

Despite their success in generating collaboration and informing policy positions, challenges remain in integrating the knowledge of these networks into formal policy processes. The data imbalance that has existed for the past two decades impedes the ability of communities to plan effectively and impairs the understanding of place by higher orders of government. In articulating the limits of hierarchical organizations, Stein (2006: 40-41) discussed the power of networks as an integrative function within vertically organized societies. Networks "enable communication and collaboration among members who may be dispersed in different organizations, in space and in time. Networks multiply the channels through which information and exchange flow, and are, therefore, much less subject to blockage and gridlock." As a tool for enhancing the capacity of Canada's federal system to respond to the complex challenges of globalization, Stein (2006: 50) argued for a form of "networked federalism" where "governments connect with those who have important information, good policy ideas, or strategic assets in policy implementation." The CSDS and QOLRS provide a model for such networked federalism by freeing the flow of information to communities and harnessing the collective knowledge that communities generate from it.

### Conclusion

As Canada confronts increasingly complex issues requiring creative responses among various actors, the importance of pan-Canadian networks capable of mobilizing local knowledge is vital. Scott (2009) noted: "The answers to a community's issues are never located

exclusively in the community, particularly in an era of globalization. However, the way people engage around issues is invariably local." The power to address the issues facing communities can no longer be dissociated from the knowledge available in and to communities. Anderson (2009) concluded: "Knowledge is power. If knowledge is concentrated in Ottawa, the power to address issues also remains concentrated in Ottawa." To enhance the effectiveness of place-based strategies, access to knowledge and data by local stakeholders is essential if they are to play a meaningful role in collaborative policy development activities with the federal government. Our collective success in charting a new course may hinge, in part, on the willingness of these emerging knowledge networks to "proceed until apprehended" and continue to assert the value they add to national policy debates. ●

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## Lake Winnipeg Basin Initiative

Covering 24,000 square kilometres, Lake Winnipeg is the tenth largest freshwater lake in the world with a water basin extending over four provinces and four American states. In 2008 the federal government responded to the deteriorating water quality in Lake Winnipeg by making a commitment of \$17.7 million over four years to establish the Lake Winnipeg Basin Initiative. The Initiative was established partly in response to the Manitoba government's request for federal leadership to facilitate integration and co-ordination of stakeholder efforts across borders and to address scientific needs. Led by Environment Canada's Water Science and Technology Directorate, the initiative also includes other federal departments (particularly Fisheries and Oceans Canada and Agriculture and Agri-Food Canada), provincial agencies, non-government organisations, First Nations and other stakeholders.

As part of this initiative, Environment Canada is implementing an integrated science plan to inform policy and programs and to support decision making related to the nutrient management issues of the lake. A Lake Winnipeg Basin Stewardship Fund supports projects that will reduce nutrient loading. A number of federal and provincial agencies are involved in a technical advisory committee that reviews the project proposals.

Environment Canada has also established a Lake Management Office in Winnipeg and is developing a single-window information portal to promote data-sharing amongst partners. The department is working with the Province of Manitoba to develop a Federal-Provincial agreement or MOU to establish a long-term collaborative approach to ensure the sustainability of the basin.

A more detailed description of this initiative can be found on the Policy Research Initiative web site at <[www.pri-prp.gc.ca](http://www.pri-prp.gc.ca)>.



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**T**he number of integrated landscape management (ILM) practitioners and a growing body of application experience is evolving at the community, provincial, regional, and national levels in Canada – among governments, within the non-governmental organization sector, and within the private sector. Understanding ILM evolution, recent developments, and future trends in Canada will assist in determining the most appropriate ILM roles for the federal government.

Given that most land use and resource management and planning responsibilities fall under provincial jurisdiction, the Policy Research Initiative (PRI) initiated a detailed review of ILM at the provincial level in the spring of 2009.<sup>1</sup>

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# Exploring Integrated Landscape Management in Canada

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## A Planning Tool for Sustainable Development

While no universal definition yet exists, ILM has been described as bringing together science, geography, and socioeconomic information to manage environmental objectives, cumulative effects, and any conflict in terrestrial,

aquatic, and marine areas. Integrated landscape management assumes the use of place-based, rather than activity-based, approaches to sustainable land and resource-use planning. This conceptualization is founded on a multi-partner, interdisciplinary, and whole system approach to guide policy and decision making. It includes all aspects of ILM strategy development, implementation, evaluation, and adaptation.

At the core of ILM is the recognition that innovative planning approaches are now required to facilitate the movement of human society toward a path of sustainable environmental, economic, and social development. Planning and management are elements of governance and, ultimately, decision-making tools. As such, the guiding concepts and challenges facing effective ILM mirror the governance challenges of human communities attempting to shift toward sustainability.

## Range and Types of Provincial Initiatives

Most provinces have strong environmental impact assessment (EIA) processes, which are increasingly integrated in their review of impacts of particular developments. These assessments, however, are not ILM planning initiatives, which should be in place before significant land use change is contemplated through development.

An extensive review of each province's ILM experience was conducted, with representative examples used to highlight innovations, approaches, and progress in each jurisdiction. All

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1. This paper summarizes the results of a study commissioned by the PRI available at: [www.pri-prp.gc.ca](http://www.pri-prp.gc.ca)

provinces demonstrate varying degrees of integrated planning, management, decision making, and conceptual thinking around ILM and sustainable development. The examples explored in the project are by no means exhaustive, but they do represent the Canadian ILM experience as it exists today. This information is presented in a detailed project report to be available via the PRI web site. A summary is provided below.

An incredible variety of ILM-related initiatives occur within the provinces. Table 1 outlines the initiatives and provides a relevant provincial example. Each example demonstrates one or more important elements of ILM as discussed in the literature, while serving to illustrate the current range and scope of ILM activity at the provincial level. They may be grouped into three general types: planning, strategies, and other initiatives.

In most provinces, clear Crown land use planning/policies are in place; in some cases, there is a high degree of co-ordination among multiple provincial departments. As well, most provinces have strong municipal planning processes and policies, which may also include very clear provincial planning directives to local governments, and/or provincial co-ordination of regional municipal planning efforts. Each province has also developed various sectoral planning or strategic initiatives that contain elements of ILM. These range from being highly focused on a particular resource or industrial sector (i.e., water protection, forest

management, fisheries, energy, agriculture) to nascent ILM efforts at multi-departmental co-operation around all aspects of land and resource use and comprehensive province-wide sustainable development frameworks.

Several other types of ILM-related initiatives have also been documented at the provincial level including regional co-operation and issues among multiple provinces and jurisdictions; empowerment of communities in planning and co-management of land and resources; and significant independent initiatives.

It is fair to say that “comprehensive” ILM is not yet widely occurring, nor has it been demonstrated fully and effectively in any province. However, Alberta has initiated its ambitious Land Use Framework to guide all land use and development activities in the province. This initiative has the potential to lead the country with a comprehensive ILM approach, but it is just beginning to take shape and cannot be meaningfully assessed as yet. The New Brunswick Environment Strategic Plan also demonstrates a very high level of internal departmental co-ordination, with plans to co-operate with two additional departments in the development of a new provincial planning policy. Quebec’s sustainable

development strategy represents a level of government-wide planning and co-ordination that is rare in Canada.

Regardless, many examples exist of particular aspects of ILM in operation across Canada from which lessons can be learned. Highlights from the research, with several observations and innovations follow.

## **Observations and Innovations**

Land use conflict and the perception of crisis is a key factor in catalyzing meaningful ILM responses. Water quality contamination, industrial development, depleted fisheries, and forest management concerns figure prominently in the evolution of ILM-based responses in Canada’s provinces. However, in very rare cases, a vision for the future or opportunity to avoid future conflicts has driven an ILM planning process or strategy. There are opportunities to learn from both approaches.

**At the core of ILM is the recognition that innovative planning approaches are now required to facilitate the movement of human society toward a path of sustainable environmental, economic, and social development.**

Serious issues can generate rapid ILM-based responses. These are typically characterized by very high levels of political support, formalized interdepartmental co-ordination and co-operation, as well as very adaptive or innovative responses. Energy development (especially related to oil and gas) appears to represent the industrial



**Table 1**  
**Types of ILM and Sample Provincial Initiatives**

Type of ILM-Related Initiative	Examples Located									
Planning										
a) <i>Crown land use planning by provincial government</i> Example: Co-ordination of Crown land planning under British Columbia's <i>Forest and Range Practices Act</i> , by the Integrated Land Management Bureau, working with (and on behalf of) seven provincial ministries.	BC		SK		ON					
b) <i>Planning directives to local government by provinces</i> Example: Application of the New Brunswick Coastal Areas Protection Policy through the provincial EIA process and its future adoption as a regulation applicable to all lands under the <i>Clean Environment Act</i> .					ON		NB	NS		
c) <i>Provincial co-ordination of local/ regional-level planning</i> Example: Ontario's Growth Plan for the Greater Golden Horseshoe, to address long-term regional infrastructure needs under the <i>Places to Grow Act</i> , in association with existing municipal planning legislation and policy.		AB	SK	MB	ON		NB			
Strategies										
a) <i>Focused sectoral strategy led by province or appointed body</i> Example: The Focusing Our Energy strategy for Newfoundland and Labrador, a comprehensive initiative designed to maximize the long-term benefits of energy resource development on behalf of all provincial residents.	BC	AB	SK	MB	ON	QC	NB	NS	NL	PEI
b) <i>Nascent ILM (beyond Crown) strategy to be led by province</i> Example: Development of regional land use plans approved by Cabinet under the Alberta Land Use Framework, with legislative support under the <i>Alberta Land Stewardship Act</i> and interdepartmental secretariat co-ordination.		AB					NB			
c) <i>Comprehensive sustainable development strategy led by province, with legislative support</i> Example: The Nova Scotia Sustainable Prosperity Initiative and application of the <i>Nova Scotia Environmental Goals and Sustainability Act</i> , with commitments to achieving goals (with targets and dates) enshrined in the legislation).				MB		QC		NS		
Other Initiatives										
a) <i>Regional co-operation initiatives involving multiple provinces</i> Example: Co-ordinated implementation of the Acid Rain Action Plan developed by The Conference of New England Governors and Eastern Canadian Premiers, without any formal enabling legislation.						QC	NB	NS	NL	PEI
b) <i>Empowerment of local/regional communities and/or co-management</i> Example: Manitoba's support of Aboriginal communities under the Wabanong Makaygum Okimawin – East Side of the Lake (Winnipeg) Governance initiative, covering 82,000 km <sup>2</sup> of boreal forest.	BC	AB		MB	ON	QC			NL	PEI
c) <i>Significant independent ILM-related initiatives (others known to exist)</i> Example: Manitoba's Tobacco Creek Model Watershed project is based on integrated goals focused on farm income/landscape diversity, watershed management, participation/monitoring, drainage/fish habitat.				MB						PEI

sector where the highest degree of political support and interdepartmental co-ordination around ILM exists. Alberta, Newfoundland and Labrador, and Quebec each have very comprehensive energy strategies, with a major focus on oil and gas development, and its substantial social and environmental impacts.

The industrial sector is a major stakeholder in all provinces, and in some other cases (e.g., the Alberta Chamber of Resources, British Columbia's Water and Wastewater Association, and the Atlantic Canadian Organic Regional Network), industrial organizations have been actively involved in the advancement of ILM-related initiatives. Leadership from industry is important, but there may be some cause for concern, that strong influence from these interests may be inappropriate in establishing provincial priorities and implementing government policy and planning decisions. In some cases, leadership from non-governmental organizations has also played an important role in shaping ILM efforts at the provincial level (e.g., the Atlantic Canadian Conservation Data Centre and the Prince Edward Island Nature Trust).

At this point, Quebec appears to be the most innovative and forward-thinking province focusing on ILM, with several internally co-ordinated initiatives occurring under the auspices of a provincial sustainable development strategy. Initiatives, such as the Quebec water policy, a move toward localized/regionalized natural resources decision making, and the application of strategic environmental assessment under the Quebec energy policy represent a

planning paradigm that is more focused on achieving future visions than on responding to crises or conflicts. This policy foundation is legislatively supported by a comprehensive provincial sustainable development act.

The Nova Scotia *Environmental Goals and Sustainability Act* supports that province's Sustainable Prosperity Initiative and represents another impressive government-wide ILM-related effort. It includes other sectoral strategies, such as a social improvement initiative (Weaving the Threads: Framework for Social Prosperity), which seeks to address the well-being of Nova Scotia residents.

Meaningful stakeholder involvement and participation represent a fundamental element of any effective ILM-related initiative. British Columbia's New Direction for Strategic Land Use Planning is co-ordinated by the province's Integrated Land Management Bureau. This effort focuses on building strong land use relationships with First Nations in the province; Manitoba and Quebec have also made similar (if less formalized) progress. Very impressive levels of stakeholder participation have also been experienced through Ontario's Living Legacy, the province's current Crown land use strategy through which some 15,000 people participated across three regions. The Quebec energy strategy involved 12,000 people in its consultation process.

A perceived lack of adequate, open, or honest communication can easily eliminate stakeholder unity and throw major ILM planning initiatives into disarray, as appears to be the case with Manitoba's East Side Planning Initiative covering Canada's largest contiguous region of boreal forest landscape, part of which has been nominated for UNESCO World Heritage Site designation.

There appears to be great value in regional (including cross-border) strategic co-operation around ILM, especially where smaller governments with fewer resources work together. The Acid Rain Action Plan prepared by The Conference of New England Governors and Eastern Canadian Premiers represents an impressive level of co-ordination among multiple jurisdictions on a complex issue,

through which detailed data are collected, translated, and shared among the member provinces and states. It would seem logical that increased regional, interprovincial, and international co-operation would benefit several other areas of Canada, particularly the Prairies. Ontario has several regional ILM-related initiatives in the Greater Golden Horseshoe (GGH) region around Toronto, namely the Greenbelt Plan, Oak Ridges Moraine Conservation Plan, Niagara Escarpment Plan, Parkway West Belt Plan, and the Rouge North Management Plan. Several watershed-based *conservation authorities* also exist within the GGH. The new

**All provinces demonstrate varying degrees of integrated planning, management, decision making, and conceptual thinking around ILM and sustainable development.**



Growth Plan for the Greater Golden Horseshoe is an attempt by the Ontario Ministry of Energy and Infrastructure to integrate many of these existing initiatives under the *Places to Grow Act*. However, this strategy and legislation override clear and consistent provincial planning direction under the province's *Planning Act* and Provincial Policy Statement on municipal land use planning, raising planning integration and certainty concerns, and creating opportunities for new land use conflicts related to growth and sustainability (vs. addressing them) in Canada's most intensely developed and growing region.

Regardless of its current shortcomings in the GGH, legislated planning direction appears to be clearest in Ontario – through a provincial policy statement on municipal land use planning, which fundamentally recognizes the critical land use planning and decision-making roles played at the local government level. Through the statement, a performance-monitoring framework is now in development to evaluate progress and support the achievement of consistent provincial goals.

Presented most poignantly in the GGH, but also existing elsewhere in Canada where provinces appear to have multiple related initiatives, each attempting to “co-ordinate” various sec-

tors or regions, the fact that so many ILM-related plans exist (with new plans either replacing or overriding existing plans) suggests an actual lack of co-ordination and integration (and the inefficient use of human, technical, and financial resources). It is apparent that power struggles exist among “competing” departments within individual provinces as they claim authority for ILM. There is an urgent need for vastly improved interdepartmental planning co-ordination in most of the provinces.

However, it should be noted that some individual departments do have very impressive internally co-ordinated ILM-based plans. This is particularly the case with New Brunswick Environment. Governed by principles focused on integrity, respect, impartiality, and competence,

the New Brunswick Environment Strategic Plan appears to embody much of what an ILM approach should look like. The ministry has stated priorities to support integrated planning, place decision making at appropriate levels, and promote a culture of continuous improvement and adaptive management – hallmark concepts at the core of ILM. New Brunswick Environment is currently working to implement the New Brunswick Coastal Areas Protection Policy (CAPP), an ILM planning and decision-making tool

designed to improve the management of coastal areas. Similar ILM-related innovations are noted within Common Vision – Common Future, the New Brunswick fisheries renewal strategy. The next challenge is to carry this department-level co-ordination across all ILM-related decision-making processes of government, and among all relevant departments.

Watersheds (often embodied within an integrated water resources management or IWRM framework) continually appear as a logical unit for ILM planning in most provinces. Ontario and Manitoba have led the way in this regard, with rapid progress by others. The formation of 33 regional watershed organizations under the Quebec water policy is likely the most comprehensive initiative. Coastal zone planning is equally important and logical in marine areas (using an integrated coastal zone management (ICZM) framework). Drinking water protection and other types of water strategies exist in most provinces and typically represent the first co-ordinated planning experiences in watersheds. Saskatchewan has demonstrated the greatest provincial leadership in this area through its Safe Drinking Water Strategy (SDWS). The SDWS is legislatively defined as a key cross-government strategy with mandated reporting to the legislature and clear interdepartmental planning guidelines. Science-based indicators rate watershed health and determine priority watersheds for action and support. Strategy implementation has occurred through a deputy minister level interdepartmental committee chaired by Saskatchewan Environment.

**The primary requirements for effective ILM-related initiatives appear to centre on high-level political commitment, interdepartmental co-ordination and co-operation, and building stakeholder unity through effective consultation and open communication.**

Community-level watershed-based planning and management occurs through the Saskatchewan Watershed Authority (SWA), which also reports to Saskatchewan Environment. The SWA supports the self-organizing capacity of local communities to develop their own watershed-based initiatives, like those embodied by the Lower Souris Watershed Committee. Prince Edward Island has recently responded to its watershed-based challenges by swiftly and strongly responding positively to recommendations made by the independent PEI Environmental Advisory Council, to address critical needs for the province's 30 local watershed stewardship organizations and their efforts to improve the sustainability of the province's dominant land use – agriculture.

Varying degrees of legislative commitment to ILM exist across Canada, but much can and has been accomplished without formal legislative support, as informal interdepartmental co-operation and co-ordination among well-meaning individuals can be as important as formal efforts. The primary requirements for effective ILM-related initiatives appear to centre on high-level political commitment, interdepartmental co-ordination and co-operation, and building stakeholder unity through effective consultation and open communication (i.e., The Conference of New England Governors and Eastern Canadian Premiers). While formalized commitment, co-operation, and co-ordination should guarantee better, more consistent results, this is not always the case, as some formal bodies can be (and rou-

tinely are) ignored or not used if there is a lack of political support for them and their processes.

### **Preliminary Assessment of Progress**

If ILM is to contribute to improved planning, management and, ultimately, sustainable development, continued improvement in decision making will be required. Based on the research conducted for this project, what appear to be the single most innovative provincial examples of various elements are now discussed, focusing on initiatives that exist today and could readily be explored further.

### **Governance**

Effective governance and strong political leadership from the highest levels of responsibility over land and resource management are required for ILM to proceed. Today, Quebec must be recognized as the most innovative province in Canada where effective governance in support of ILM appears to exist. Quebec's approach starts at the very broadest levels through its sustainable development strategy, which commits all departments to developing and reporting annual sustainable development plans. Integration is a key feature of the strategy, and this occurs at the highest levels – at three Cabinet committees, most importantly the « Comité ministériel de la prospérité économique et du développement durable », which directly links sustainability to economic development. A series of progress indicators are now in development, and overall progress will be reported annually to the auditor general by the com-

missioner of sustainable development. It is likely due to this leadership and strong recognition of the value of integrated decision making that additional innovations have occurred related to the integration/regionalization of natural resources management, implementation of watershed-based planning through the Quebec water policy, and the application of strategic environmental assessment processes in the Gulf of St. Lawrence.

### **Commitment**

Prince Edward Island may be the leader for this key ILM element, where recognition and support of the actors closest to implementing solutions are so critical. This province appears to understand that a provincial jurisdiction can do little beyond strategic policy, appropriate funding, and clear regulations and/or incentives to effect actual solutions at the landscape level; it is the cumulative impact of many individual decisions the ultimately determines whether sustainability trends move upward or downward. In response to growing water quality concerns related to agriculture (a key driver of the provincial economy), Prince Edward Island commissioned its independent Environmental Advisory Council to investigate the matter. The prime recommendation was for the province to provide substantially greater levels of financial and technical support to 30 existing and largely volunteer watershed stewardship organizations (WSOs) in the province. Immediately on release of the Council's report, the province announced its Watershed Planning Initiative, with dramatic



increases in WSO funding and technical support to these local groups, most of which focus on the provision of agriculture-friendly water quality solutions.

## Science

Scientific information is more likely to be used effectively by decision makers if it contributes to the resolution of sustainability challenges around which there is broad public support. This does not discount the need for pure research. It only suggests that some aspects of the ongoing frustrations between science and decision making might be channeled in support of improved ILM decision making, which some may see as “applied,” although this is not necessarily the case. Saskatchewan leads the country in this area through its use of science-based indicators to support its Safe Drinking Water Strategy and local watershed planning initiatives co-ordinated by the Saskatchewan Watershed Authority (SWA). A suite of 30 indicators have been developed through rigorous research, and are now used to rate each watershed in the province in terms of health and sustainability. The indicators provide a useful tool for decision makers in determining priority watersheds for action, and in tracking long-term progress and trends. They will also be useful for local decision makers and stakeholders to see progress in their planning efforts (and adapt as required).

## Capacity

Establishing the capacity to implement ILM-related initiatives and, ideally, comprehensive sustainable development solutions, is best portrayed in British Columbia, through the opera-

tions of the Columbia Basin Trust (CBT). While its origins through the Columbia Basin Treaty reflect dramatic examples of poor planning and a lack of integration, the CBT today maintains a generous financial endowment in recognition of past planning mistakes. Through this ongoing funding, the CBT defines integration and comprehensiveness in all its operations, most of which focus on sustainability, quality of life, and investing in the watershed community. The CBT will likely play a major role in shaping the environmental, economic, and social future of this region.

## Co-ordination

Given its strong leadership, it should not be surprising that Quebec also leads in terms of co-ordination. It is logical that a government that understands the need for integrated environmental, economic, and social solutions will also find a way to provide the structures to support its leadership efforts. Beyond its three interdepartmental Cabinet committees, Quebec’s sustainable development strategy is supported by a special unit, the “Bureau de coordination du développement durable”, led by an assistant deputy minister. This office also supports the staff level “Comité Interministeriel du développement durable”. These critical functions are provided by the “Ministère du Développement durable, de l’Environnement et des Parcs” (MDDEP), a department with sustainable development in its name. Finally, there is very strong leadership from the premier on the sustainable development strategy.

## Opportunities for Federal Consideration

While this research focused on ILM-related initiatives at the provincial level, there are needs and opportunities for increased federal attention and participation in ILM initiatives across Canada.

Canada has constitutional responsibilities directly related to ILM in the areas of navigable waterways, fisheries, and First Nations. Also, the federal government is jointly responsible for agriculture, together with the provinces. Transportation is another major area of federal jurisdiction, and Canada has traditionally funded vast amounts of infrastructure development across the country. Each of these areas has very strong connections to land use planning and management, in addition to social and environmental impacts.

Federal departments currently lead several ILM initiatives relating to agriculture, fisheries, and forestry/natural resources. These need to be explored to understand more clearly how the federal government participates and initiates ILM. The federal government also plays a key role in supporting land use planning and management efforts in the territories; ILM efforts undertaken in the Northwest Territories, Nunavut, and Yukon need to be similarly explored. These federal departmental and territorial explorations would support the evolution and consistent application of a suite of national ILM standards – working in co-operation with the provinces (which are primarily responsible for land use planning and management in Canada). There is a

need for greater (and more effective) co-operation with the provinces, and their ILM efforts, particularly around areas of clear federal jurisdiction (or other areas of useful federal participation, such as science-based indicators and performance measurement).

The federal government could also play a key role in facilitating greater inter-provincial co-operation at the provincial boundaries, where political barriers often thwart effective land use planning and management across logical, landscape-based regions, such as ecozones and watersheds. With federal technical,

and financial support, community-level, watershed-based ILM plans occurring within larger regional-level ecosystems or ecozones may be the most appropriate land use planning and management framework for the federal government to encourage. ●

### **Hosting the Olympics – An Exercise in Multi-sector, Multi-disciplinary and Multi-jurisdictional Planning and Coordination**

Canada will host the XXI Winter Olympic Games and the X Winter Paralympic Games in February and March 2010. In executing this global undertaking, the Vancouver Organizing Committee for the 2010 Olympic and Paralympic Winter Games (VANOC) is working in close cooperation with the governments of Canada and British Columbia, the City of Vancouver, the Resort Municipality of Whistler, the Canadian Olympic Committee and the Canadian Paralympic Committee. To facilitate the work of this core decision-making body, a multi-party agreement – the first in the history of the Games – was established, which clearly defines each party's roles and responsibilities and acts as an essential planning tool. Other parties, including community organizations, are also engaged in the process.

To coordinate the horizontal and vertical participation of federal bodies, the Federal Coordination Framework was created. This governance mechanism includes a Coordination Committee of deputy ministers and heads of organizations, which provide executive leadership and ensure collective actions reflect federal priorities. In addition, contribution agreements have been signed by VANOC and most provinces and territories regarding their cooperation in Games organization, with the aim

of securing mutual, long-term benefits in terms of arts and culture, the economy and tourism, and participation in sports, among other areas

The Games represent a unique opportunity to develop new infrastructure, stimulate the economy, tourism, volunteerism and employment, and promote sports. Partners have committed to promoting the inclusion of federal priorities such as the diligent and transparent use of public funds, requirements related to official languages, protection of the environment, active and inclusive participation of Aboriginal communities, and promotion of Canadian cultural diversity.

Sustainable development is a critical element in terms of the Games' general organization. Significant environmental efforts are being made in relation to biodiversity and animal habitat, energy and climate change, air quality, water quality and preservation, and waste management. The promotion of social inclusion through Canada's diverse linguistic community, Aboriginal cultures, and vibrant multicultural dimensions is being fostered. And economic development opportunities are being generated for Canadian businesses and communities, especially in procurement, tourism, trade, investment, technology and innovation.

A more detailed description of this initiative can be found on the Policy Research Initiative web site at <[www.pri-prp.gc.ca](http://www.pri-prp.gc.ca)>.



## Mike Harcourt

Former Premier of British Columbia  
and former Mayor of Vancouver

In February 2004, Prime Minister Paul Martin established the External Advisory Committee on Cities and Communities (EACCC). The diverse members came from all regions of the country – from big, medium, and small communities, and from wide sectors of the economy and society. I was appointed chair. Our purpose was “to rethink the way Canada and its communities are shaped, and to help make sure that Canada will be a world leader in developing vibrant, creative, inclusive, prosperous and sustainable communities.” (EACCC 2006: iv)

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# From Restless Communities to Resilient Places: The Role of the National Government and The Importance of Integrated Community Sustainability Plans

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Over the next 27 months we convened meetings, workshops with hundreds of local leaders, community agencies, stakeholders, and subject matter experts. We formed two subcommittees

to focus on different sizes of communities, and on four dimensions of sustainability: a prosperous economy, a healthy environment, social inclusion, and a culture rich in creativity, and its practical application, innovation.

In September 2005, we convened a roundtable, Planning for Sustainable Canadian Communities, attended by over 100 government politicians, officials, and experts on community sustainability. From this event, we formulated a planning approach we awkwardly named “Integrated Community Sustainability Planning”. We also tested the initial findings and recommendations. Broad agreement was reached. Further work by the committee, from October 2005 to June 2006, refined our three key findings and recommendations. We were ably assisted by staff at Infrastructure Canada’s Cities and Communities Branch. On June 15, 2006, our final report, “From Restless Communities to Resilient Places: Building a Stronger Future for all Canadians,” was transmitted to Prime Minister Harper. The 70-page report, with a wealth of research, and other material, summarized the findings under three themes.

- **Place matters:** Canadians have a strong sense of place. These places – big, medium, small, rural, or remote – were so varied that a cookie cutter, one way suits all, Ottawa-driven approach, wouldn’t work.
- **Double devolution:** Ineffectual government arrangements damage the global competitiveness of Canada’s nine big cities, 100 medium-sized cities, and thousands of small, rural, remote communities.

- **Sustainable cities and communities strategies:** For double devolution to work, local communities need to collaborate with federal and provincial/territorial governments, and citizens to develop a vision for their place.

These findings lead to three basic recommendations.

1) **All governments in Canada need to adopt a place-based approach** to policy making. The leadership role of the federal government would be “one of facilitation and partnership with other orders of government and civil society, to deliver locally appropriate solutions to issues of national consequences playing out at a local level” (EACCC, 2006: 18).

2) **A double devolution should occur** from the national government to provincial and territorial governments, and then shift responsibilities and resources to the local level. In the interim, while cities and communities take on new responsibilities or develop their own taxation systems, the municipal infrastructure deficit of aging sewer, water, waste management, roads and bridges, libraries, and recreation centers, needs to be addressed by increased federal, provincial/territorial investments.

3) All governments should work together to assist communities in **developing integrated sustainability strategies and plans**.

## Present Situation

While our EACCC report was being researched, and experts and communities became involved, many intergovernmental initiatives were well under

way to reduce the \$100 billion plus municipal infrastructure deficit; start to shift more revenue from federal and provincial governments to municipalities; and start the process of intergovernmental co-operation and planning for more sustainable communities.

Prime Minister Chrétien’s government restarted a municipal infrastructure program, in 1994. Prime Ministers Martin and Harper have maintained the \$1.2 billion per year funding, over the last 15 years totalling \$18 billion federal funding, which with provincial and municipal investments totalled around \$45 billion. As well, Prime Minister Martin implemented the Federation of Canadian Municipalities request for sharing the equivalent of five cents of the gas tax which, by 2009, amounted to \$2 billion per year. As well he eliminated the GST on municipal purchases, keeping \$700 million per year in municipal coffers. Prime Minister Harper and Finance Minister Flaherty made the gas tax revenues a permanent source of revenue transfer to the provinces to pass through to municipalities.

The 2004-2006 so-called “gas tax agreements” between the federal, provincial, and municipal governments also provided funding for “Integrated Community Sustainability Plans” (ICSPs), which are community-based, participatory planning frameworks designed to help communities define and achieve their long-term, sustainable development vision. These plans support the integration of a community’s environmental, social, cultural, and economic objectives, and can act as a tool to better align community-level policies across all levels of government.

As well, \$130 million was transferred from Infrastructure Canada to Indian and Northern Affairs Canada for infrastructure on reserves. Funds were also made available for comprehensive community plans (CCPs). Over 80 First Nations communities in British Columbia have received CCP funding. Additionally, new federal funding was made available to academics and organizations throughout the country to support research on horizontal infrastructure-related issues, including research on sustainable community planning that supports ICSP implementation by documenting best practices and sharing key lessons.

## Future Implications

Over the last 15 years, federal, provincial/territorial, and municipal governments have, in an ad hoc rather than cohesive way, started to move toward addressing the municipal infrastructure deficit, in a more place-based way.

A form of double devolution through the gas tax agreements and permanent gas tax transfers is starting to evolve. For example, Manitoba transfers income tax revenues to municipalities. British Columbia gives municipalities access to hotel taxes and vehicle offence revenues and, through Metro Vancouver’s transportation agency Translink, use of a range of revenue sources, such as the gas tax, hydro surcharges, and parking and vehicle levies.

Sustainability planning approaches and funding are taking place in many provinces and municipalities. Examples of provinces and territories playing an active “linchpin” role include British Columbia’s *Growth Strategies Act* and Smart Planning Program, as well as



Ontario's Places to Grow initiative and Yukon's ICSP toolkit. At the municipal level, examples include new planning tools, such as the Alberta Urban Municipalities Association's Municipal Sustainability Planning on-line toolkit. Across Canada, several regional and metropolitan bodies, large and small cities, and towns have engaged in long-term, integrated, and participatory planning processes.

However, much more needs to be done. Research generally shows that implementation of community sustainability planning principles and objectives, and their integration into day-to-day decision making and community development processes, remain a significant challenge in many places, no matter the size of the community. Recent Canadian case studies<sup>1</sup> show that strong community-based leadership that can engage broad support for sustainability planning goals, to develop consensus and to promote participation is an essential ingredient of successful ICSPs. The studies also show that the possibility for cities to learn from each other's experience, through participation in "peer-to-peer" information activities, is highly valued by municipal officials and represents another key enabling factor for advancing and implementing sustainable development agendas at the community level. Still, we need to continue to improve and share our understanding of the barriers

and the key factors that can lead to or impede successful implementation of ICSPs in various contexts.

Another potential avenue for governments to support sustainable community development is the development of new data and tools that can lead to a better "on-the-ground" evaluation and ongoing monitoring of multi-level sustainability policies. Our final EACCC report emphasized the need to "catch-up with other countries on research and policy reviews of cities and their effects on competitiveness, inclusion and sustainability" (EACCC, 2006: 15-16), as other Canadian stakeholder reports have pointed to poor data quality and quantity as an obstacle to better policies on cities.<sup>2</sup>

Currently, governments, academics, and private stakeholders in Canada are engaged in a variety of promising research initiatives and data-development projects that share the common, overarching goal of advancing community sustainability in Canada. Ongoing projects either focus on developing Canadian knowledge and capacity on urban integrated energy systems (e.g. QUEST), improving our capacity to assess the state of Canada's public infrastructure (e.g. NRTSI and NRC, 2009) or on new national data that can better track the evolution of urban form (e.g. Infrastructure Canada and Statistics Canada). More innovative and collaborative research initiatives of this type are needed.

We are in the urban century, internationally and nationally. More people live in cities than the countryside for the first time in human history. At the time of Confederation, only 20 percent of Canada's citizens lived in cities; soon, 90 percent plus will live in urban areas. Even though our small, rural, and remote natural resource-based communities are very important, 95 percent of our 33 million citizens live in our nine big and 110 medium-sized cities, or their suburban rural communities, close by. Climate change mitigation and adaptation, global competitiveness, and the quality of life will probably accelerate intergovernmental co-operation, and it is hoped this will happen more by public policy design, than chance. A great public policy opportunity exists to study, research, and facilitate new 21<sup>st</sup> century intergovernmental approaches that are place-based, with double devolution, and lead to sustainability-focused cities and communities. ●

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## Comprehensive Community Planning (CCP)

Comprehensive Community Planning (CCP) is a strategic planning process supported by Indian and Northern Affairs Canada (INAC). This planning process enables First Nations, Inuit and Northern communities to take a holistic approach to managing natural resources, while incorporating and addressing the social, economic and governance aspects of a community.

Based on a process whereby all community members are engaged in identifying and prioritizing their needs and wants and developing clear goals and a vision for the future, CCP provides a framework for the integrated management of land, natural resources and the environment that touches on all aspects of community life.

Plans may vary from community to community, but they all have the key principles of participation, sustainability, clear goals, enforceability and flexibility.

INAC has assisted and/or supported 138 communities interested in CCP in a variety of ways. For example, in British Columbia more than 10 tools to assist communities in the CCP process have been developed and a tracking/ evaluation system and a Funding Service Officer Training program have been implemented. Monitoring and feedback advice is an important part of supporting communities, and the region has a designated Monitoring Officer for this purpose.

A more detailed description of this initiative can be found on the Policy Research Initiative web site at <[www.pri-prp.gc.ca](http://www.pri-prp.gc.ca)>.



## John Bachtler

European Policies Research Centre  
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*The past two decades have seen a shift in the paradigm of regional policy in Europe. This article reviews the trends in regional policy design and delivery at national and European Union scales, and considers the degree to which the principles of place-based policy operate in practice, highlighting the issues and challenges that have arisen.*

## A Place-Based Policy Approach

**T**he concept of place-based policy is not new. As far back as the 1960s, Louis Winnick (1966) posed the dichotomy of “place prosperity” vs. “people prosperity” in considering the redistribution of economic activity. The question of whether government intervention in areas, such as poverty and social inclusion, should focus on people or places has been a perennial source of debate in regional, urban, and other policies (Armstrong and Taylor, 2000). Over the past two decades, the concept acquired a new resonance in several policy fields, particularly in North America and Australia. Facilitated by the OECD, it has also become more familiar to Euro-

ent under-utilization of potential and reducing persistent social exclusion in specific places through external interventions and multi-level governance; promoting the supply of integrated goods and services tailored to contexts; and triggering institutional changes (Barca, 2009).

The impetus for this policy approach has come from a greater recognition of the importance of place in modern growth theories and, especially, the spatially contingent economic and institutional factors that contribute to economic agglomeration. Policy thinking about economic and social development has been reshaped by three advances in theory and empirical research (Farole et al., 2009): the “new economic geography,” notably the relationship between transport/trade costs and spatial agglomeration; endogenous growth theories, especially on the sources and territorial distribution of innovation; and institutional theories seeking to explain the capacities of economies to adapt and innovate. Michael Storper (1997: 3) encapsulated the shift.

Something funny happened in the early 1980s. The region, long considered an interesting topic to historians and geographers, but not considered to have any interest for mainstream sector social science, was rediscovered by a group of political economists, sociologists, political scientists, and geographers... it was asserted that the region might be a fundamental basis of economic and social life “after mass production.”

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# Place-Based Policy and Regional Development in Europe

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pean policy makers, where the preferred spatial term has tended to be “region” rather than “place.” The concept has been used to describe not just a spatial focus within policy making but a strategic and integrated approach to governance with different institutional relationships. In a recent formulation for the European Union, a place-based policy approach was defined as a long-term strategy aimed at tackling persist-

The influence of such thinking on European regional development policies has been significant. It sparked a radical transformation of regional policy design and implementation, to the extent of constituting a new paradigm of regional development (Bachtler, 2001; Halkier, 2006; OECD, 2005). This paradigm shift is evident both in the regional policies of national governments in Europe as well as in the cohesion policy of the European Union. However, without detracting from the extent of change, the degree to which contemporary regional policies constitute a place-based policy approach varies, and several important questions remain unresolved.

## Regional Development Policies in Europe

In assessing whether and how the place-based policy approach is incorporated within European regional policies, several important features of the approach need to be considered: the existence of a strategic, integrated framework; the objectives of policy; the spatial focus of interventions; the state of multi-level governance; and the approach to accountability and learning (Bachtler and Yuill, 2001, 2007; Yuill et al., 2008).

A first requirement is a strategic framework to ensure that individual policies with territorial impacts are incorporated into a national strategy that covers actions taken at different levels and by different territories and actors, to ensure the consistency and coherence of policy. A feature of European regional policies over the past 10 to 15 years is a move away from individual regional aid and infrastructure instruments to a

broader set of interventions, which inevitably has involved trying to influence the territorial dimensions of sectoral policies. This is exemplified in the Nordic area, where both Finland and Sweden require sectoral policy makers to take account of the regional dimensions of their policies, as well as in France (via co-ordination by the national development agency known as DIACT – the inter-ministry delegation to the installation and competitiveness of the territories) and Italy (under the new unitary regional policy).

However, a national framework was entirely absent until recently in most European countries. Among the exceptions are Germany, which has published an annual framework plan since 1969, and the Netherlands, which produces a white paper every four years setting out spatial development priorities. Since the early 2000s, Denmark and Finland have also produced national strategic statements of regional development priorities. A more strategic approach has been stimulated by the need for EU member states to produce a national strategic reference framework as part of the funding allocation system for the EU's cohesion policy. Introduced in 2006, this has led to individual countries developing their

own national regional development strategies – often for the first time – and it has strengthened strategic co-ordination (e.g., in Austria, France, and Sweden). This approach to regional policy making has had mixed results. While undoubtedly stimulating more strategic planning and deliberation

on core priorities, the implementation of strategic frameworks has often been problematic. In particular, it has proved difficult to break down the barriers between sectoral departments and policies, certainly at a national level.

A further important change in approach has been the shift in policy objectives that have progressively moved away from the traditional goal of reducing inter-regional disparities through redistributive measures. The focus is increasingly on the promotion of economic growth and making regions more competitive through factors, such as innovation, productivity, entrepreneurship, and skills. This has

been strengthened by policy priorities at the EU level, notably the so-called Lisbon agenda, promoting EU-wide action on knowledge and innovation, the business environment, and labour markets, for which EU cohesion policy is a key instrument. Interestingly, many regional policies seek to retain some

**In assessing whether and how the place-based policy approach is incorporated within European regional policies, several important features of the approach need to be considered: the existence of a strategic, integrated framework; the objectives of policy; the spatial focus of interventions; the state of multi-level governance; and the approach to accountability and learning.**



aspect of traditional policy goals of promoting equity or convergence, notably in Germany or Spain where there are constitutional requirements to reduce disparities, or where there is long-standing underperformance/under-development justifying higher budget allocations or special measures for certain regions (France, the Nordic countries, United Kingdom).

The conceptual thinking underlying the place-based policy approach is also reflected in a different spatial focus of policy. The emphasis on developing regional strengths and potential has brought a greater focus on urban centres or city regions (United Kingdom), as well as spatial economic networks between urban centres and urban-rural links (Sweden). Examples of the application of policy at different spatial scales are sub-regions (Germany), multi-region initiatives (as in the case of the “Northern Way” in the United Kingdom or inter-cantonal agreements in Switzerland), or inter-municipality co-operation (as in the Netherlands, or the rural concept of *pays* in France). In many cases, though, the geography of national regional policies has not (yet) been substantially challenged; new spaces for regional development are often small-scale or experimental, and established regional administrative boundaries continue to provide the spatial parameters for interventions. More significant are the efforts of the EU to promote territorial co-operation, which over a 15-year period has created a Europe-wide geography of transboundary areas for intervention promoting cross-border, inter-regional and trans-national co-operation.

An integral part of these developments is a move to multi-level governance. The traditional model of regional policy governance, dominated largely or exclusively by central government, has been partly superseded by a governance system with sub-national bodies, on the one hand, and the European Union, on the other hand, playing an important part in the design and implementation of policy. The changes encompass a more complex set of vertical and horizontal relationships between and across different territorial levels and involving both government and non-government actors. The “Europeanization” of regional policy is evident in the influence of EU competition policy on policy instruments, modifying the scope for government to provide subsidies for enterprises or engage in grant-bidding wars for foreign investment. It is also apparent in the rising influence of EU cohesion policy since 1988, which has influenced both the content and governance of national regional policies.

The regionalization trend has seen a mix of devolution and deconcentration of decision making and implementation responsibilities to regions and localities – of particular note in Finland, France, Italy, Poland, Sweden, and the United Kingdom. This is a key element of the place-based approach: mobilizing local awareness and preferences with appropriate institutions so the place specificity of economic development challenges can be addressed “bottom up” with tailored, integrated, and strategic responses at the regional or local level. Devolution has led to new regional governments or councils being

created. New agencies or other delivery bodies have also emerged, enabling many regions to develop or administer their own regional strategies.

However, the scope for multi-level governance is determined by the very different constitutional arrangements and institutional structures of European countries. At one extreme is Belgium, where virtually all economic development responsibilities devolved to the regions. Other federal countries, like Austria, Germany, and Switzerland, also have high levels of regional autonomy for regional development. By contrast, many central and eastern European governments lack any significant sub-national involvement in regional development policy. Elsewhere, regionalization involves central government retaining a strong influence through regional offices or agencies (France, Finland, United Kingdom), and there are even some examples of the decentralization trend being curtailed in recent years (Ireland, the Netherlands).

The growing breadth (across policy areas) and depth (between policy levels) of regional policy means a much greater range of actors is now involved. This requires enhanced co-ordination across and between different administrative tiers. Horizontal co-ordination at the regional level has become easier over time as regional programs (developed collectively by regional actors) have become more common, in part driven by the partnership principle of the EU cohesion policy. In contrast, national-level co-ordination has been more difficult, with national sectoral departments often unwilling to “buy in”

to regional development priorities. The growth in regionalization has demanded national-regional co-ordination, through informal mechanisms of dialogue (Austria, Germany, Sweden), national co-funding of programs and projects (Denmark, France), the requirement for national priorities to be included in regionally designed interventions (Finland, the Netherlands), or contractual agreements (such as the public service agreements in the United Kingdom). Again, one of the most advanced examples of co-ordination between levels of government is under EU cohesion policy, which involves negotiated program agreements (including conditionalities and incentives) between the European Commission and individual national or regional governments.

Finally, the place-based policy approach demands accountability and learning. In part, this involves subjecting the design and outcomes of policy to greater political and public scrutiny during the phase of policy design (to ensure transparency in the decisions made on priorities and resource allocation) as well as during and after implementation. Given the uncertainties of complex packages of interventions involving different partners, it also requires a commitment from actors to effective policy learning. In this respect, a notable European trend over the past 15 years has been the growth in evaluation. From being largely restricted to a few northwestern European countries (e.g., the Netherlands, Sweden, and the United Kingdom), evaluation has increasingly been viewed as a core policy process, conducted at ex ante,

interim, and ex post stages of implementation. This has been driven by the need to demonstrate value for money but also by a need for reliable information to guide the management of development programs. Again, EU cohesion policy has been a driver of change.

## Issues and Challenges

There has clearly been substantial reform of regional policies across Europe over the past two decades. However, from a place-based policy perspective, several issues have proved problematic.

First, there is often fuzziness in the formulation of policy objectives. As Barca (2009) noted, the conceptualization of policies and the purpose of interventions often fail to distinguish explicitly between the goals of efficiency (increasing income and growth) and equity (reducing inequalities), which has implications for their verifiability. Popular terms, such as competitiveness, productivity, innovation, and entrepreneurship, are not always adequately defined or related to specific targets.

Second, although substantial progress has been made in achieving an integrated and strategic approach to development (mainly at the regional level), the progress often involves regional economic strategies. In many cases, the social and (especially) environmental dimensions tended to be managed

through separate policy channels, or subordinated to economic goals. A more coherent approach to sustainable development has begun to emerge in recent years (the EU has had a sustainable development strategy since 2001, renewed in 2006), although this is frequently interpreted as environmental sustainability. Examples of integrated, sustainable development strategies remain relatively rare.

Third, multi-level governance is now an established feature of regional development in Europe, but the degree to which regions and localities have development responsibilities and powers varies enormously from country to country. In some cases,

the regionalization of economic development is not embedded (e.g., the regional development agencies in England could be abolished with a change in government), and there are examples of central government re-centralizing aspects of development policy (as in the Netherlands). From a place-based policy perspective, a fundamental challenge is how to promote institutional capacity building at the local and regional levels and to develop social capital. There are very different views and experiences of how best to mobilize local awareness and engagement, challenge vested interests, develop networks, and capture local knowledge as a basis for designing interventions.

**From a place-based policy perspective, a fundamental challenge is how to promote institutional capacity building at the local and regional levels and to develop social capital.**



Fourth, under a place-based policy approach, the geography of intervention would be determined by development needs. In practice, it has proved difficult to move away from established administrative boundaries toward, for example, functional regions. There are interesting initiatives in several countries, with some new spaces being determined from the top down (e.g., city regions), and others emerging bottom up (e.g., through inter-municipality co-operation), but they are often marginal to mainstream development.

Finally, important foundations have been laid in Europe for improving accountability and policy learning, an integral part of the place-based policy concept. Partly driven by pressure from the EU level, the use of evaluation has grown significantly, as evident in the creation of evaluation units in government departments, the commissioning of evaluation studies as a standard part of policy development and assessment, and the creation of evaluation societies. There is also a much greater use of consultation mechanisms as part of policy design and the formulation of regional and local development strategies. On the other hand, the use of evaluation in Europe is not yet as advanced as in North America. Much

of the focus has been on evaluating process rather than understanding impacts (what works); and evaluation results are not being sufficiently exploited. More generally, a culture of policy learning is still limited. ●

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In the past two decades, the concept of ecosystem-based management (EBM) has come to dominate the theory and practice of natural resources management in the United States and elsewhere.<sup>1</sup> Although definitions vary, most EBM initiatives feature three elements: a landscape-scale focus, collaborative planning that engages all stakeholders, and flexible, adaptive implementation of planning goals (Cortner and Moote, 1999; Grumbine, 1994, 1997; Keiter, 1998). In the United States, such initiatives have yielded a variety of benefits, including a more comprehensive understanding of large-scale ecosystems and better coordination among agencies and jurisdictions within those ecosystems. But stakeholder collaboration and flexible

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# Ecosystem-Based Management in the United States

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implementation can undermine EBM's environmental benefits, unless policy makers are willing to articulate an overarching, environmentally protective goal and exert regulatory leverage to ensure that goal is attained.

## Why Ecosystem-Based Management?

In the United States, EBM has emerged in response to widespread dissatisfaction with the prevailing approach to land-use and natural-resource management practices. Ecologists and conservation biologists complain that the traditional regulatory framework implicitly treats complex, diffuse phenomena as if they are separable into problems that are well bounded, clearly defined, and linear with respect to cause and effect. There is abundant evidence that centralized decision making that generates uniform rules accompanied by penalties for non-compliance has been effective at curbing the harmful practices of huge industries. But most policy analysts believe it is unwieldy for addressing the problems attributable to the habits of individuals and small businesses. Many also draw attention to the political liabilities of the "decide-announce-defend" model, in which decision making is contentious and polarizing, stalemate is common, and the policies that result are poorly implemented and subject to ceaseless challenge.

By contrast with the conventional regulatory approach, EBM is based on the recognition that the boundaries of ecosystems rarely coincide with the lines that delineate political jurisdictions; instead, environmental problems are best addressed at a landscape scale. To that end, it involves co-ordinating the activities of jurisdictions and agencies with disparate missions and integrating management of public resources with stewardship of the surrounding

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1 By the late 1990s, the phrase "ecosystem-based management" had largely replaced the original term, "ecosystem management," as proponents sought to emphasize management of human activities within ecosystems, rather than management of ecosystems themselves.



matrix of private land. Rooted in a “flux-of-nature” (as opposed to a classical equilibrium) view of ecology, EBM aims to foster experimentation and learning through its reliance on flexible, adaptive implementation. Perhaps most important, by fostering consensus among stakeholders, EBM promises to resolve the apparently intractable controversies that accompany our ubiquitous, sprawling, resource-depleting pattern of development.

Because of EBM’s broad appeal, in the 1990s a host of non-governmental organizations, professional societies, federal agencies, and state officials endorsed the concept (e.g., Beattie, 1996; Christensen et al., 1996; Dombeck, 1996; IEMTF, 1995; NAPA, 1995; PCSD, 1996; SAF, 1992; Thomas, 1996; US EPA, 1994; Western Governors’ Association, 1998). In the 2000s, professionals and advocates began promoting EBM for marine systems as well (McLeod et al., 2005; Pew Oceans Commission, 2003; US Commission on Ocean Policy, 2004).

But EBM proponents had not waited for an expert stamp of approval before embarking on experiments. In 1983, the US Environmental Protection Agency kicked off the Chesapeake Bay Program, which brought together Virginia, Maryland, Pennsylvania, Washington, DC, and in an effort to revive what was once one of the most productive estuaries in the world. In

1991, federal, state, and local planners launched a massive effort to restore the Everglades, South Florida’s badly degraded “river of grass.” Within a few years, a similar initiative was under way in Northern California, where the precipitous decline of the Delta Smelt had signalled the collapse of the California Bay-Delta. Other prominent watershed restoration processes took hold as well, including the Interior Columbia Basin Ecosystem Management Project and the Platte River watershed planning process.

Simultaneously, terrestrial EBM initiatives were springing up around the country, but particularly in the West, spurred by potential *Endangered Species Act* (ESA) listings.<sup>2</sup> Cities and counties throughout the Southwest began working on a variety of habitat conservation plans (HCPs).<sup>3</sup> In 1985, the Fish and Wildlife Service approved the Coachella Valley HCP; in the early 1990s, the City of Austin, and Travis County, Texas, developed the Balcones Canyonlands Conservation Plan (BCCP); and Clark County, Nevada worked with the City of Las Vegas to devise the Clark County HCP. In 1991, California created its Natural Community Conservation Planning program; shortly thereafter, San Diego and other jurisdictions in Southern California established a series of pilot projects to address the rapid loss of coastal sage scrub habitat. Other projects, initiated by stakeholders, emerged as well; for

example, formed in 1993, the Quincy Library Group sought to devise a plan that reconciled logging and biodiversity conservation in a portion of California’s Sierra Nevada.<sup>4</sup>

## An Assessment of EBM

Although they hailed the emergence of these EBM initiatives, scholars had little systematic evidence of the efficacy of EBM, partly because few initiatives had existed long enough for evaluators to assess their substantive benefits, but also because of their complexity and heterogeneity. Meanwhile, critics worried that EBM would not work as expected. More specifically, they suspected that development interests would dominate regional processes, while institutional barriers would impede co-operation among agencies and jurisdictions. They feared that stakeholder collaboration would yield watered-down plans that impose substantial risk on natural systems. And they worried that flexible, adaptive implementation would enable managers to resist actions that threaten powerful stakeholders. Some critics charged that EBM would draw limited resources away from or disable the tools, such as administrative appeals, lawsuits, and public relations campaigns that, historically, have been environmentalists’ most effective weapons.

2 The *Endangered Species Act* prohibits actions that would jeopardize the survival of any species listed as endangered.

3 Amendments to the *Endangered Species Act* in 1982 allowed for the creation of habitat conservation plans, in which property owners could “take” some species in return for enhancing the species’ overall viability through habitat conservation.

4 Because of their scale and scope, the vast majority of EBM projects are led by federal, state, or local governments. Stakeholder-driven collaborative processes that aim to address environmental problems in a holistic fashion also proliferated during this period. Political scientist Ed Weber (2003) documented three prominent initiatives of this type.

My own research suggests that although EBM does yield important benefits, some of the concerns of critics are warranted.<sup>5</sup> An in-depth comparison of four prominent EBM initiatives with three similar cases reveals that landscape-scale planning does indeed prompt planners to adopt more comprehensive approaches to environmental problems and leads to new forms of co-ordination among disparate agencies and jurisdictions. In every case I examined, planners commissioned integrative scientific assessments, which in turn broadened their thinking about the relationships among landscape elements and functions. In many cases, they also experimented with new management tools — often as a result of interaction with colleagues from other agencies or jurisdictions. The beneficial effects of collaborating with stakeholders and of flexible, adaptive implementation are more elusive, however.

In cases where policy makers deferred to stakeholders in setting goals, the policies and practices that emerged appear unlikely to conserve or restore ecological health because, to gain consensus, planners skirted trade-offs and opted instead for solutions that promised something for everyone. The resulting plans typically feature management-intensive approaches with little buffering; as a result, they impose the risk of failure on the natural system. Flexible, adaptive implementation has

not compensated for the failings of these environmentally risky plans and, in fact, has sometimes exacerbated them. In particular, a rhetorical commitment to adaptive management, which entails devising management interventions as experiments that test clearly formulated hypotheses about the behaviour of the system, monitoring the results of those interventions, and modifying management practices in response to information gleaned from monitoring, has not translated into a willingness to alter policies in the face of new information. This is partly because minimalist plans actually provide little room for adjustment, but also because management and monitoring are insufficiently funded. In any case, learning by scientists does not translate automatically into management changes. And managers with missions that are incompatible with ecological restoration tend to resume resource-user-friendly practices when political conditions shift.<sup>6</sup> This intransigence may reflect the potency of organizational mission and culture which, in turn, influences who thrives in the organization and how rewards are distributed; in some circumstances, it may

be a consequence of shifting priorities among political appointees at the top of the organization.

By contrast, when policy makers — elected officials, administrators, or judges — endorsed an environmen-

tally protective goal and used regulatory leverage to prevent development interests from undermining that objective, the resulting policies and practices were more likely to conserve or restore ecological integrity. A willingness by political leaders to make ecological health the pre-eminent aim changed the balance of power and altered perceptions of what was politically feasible.

When restoring ecological health was articulated as the paramount goal, planners were more likely to approve, and managers to implement, approaches that relied less on energy-intensive manipulation and more on enhancing the ability of natural processes to sustain themselves, even if doing so imposed short-run costs on some stakeholders.

One factor that seems to affect the ability of policy makers to exert such leadership and wield regulatory leverage is the complexity — both physical and

**One factor that will complicate EBM and other place-based efforts is rapidly changing local and regional climates, and the ecological and human behavioural adjustments that will follow.**

5 I compared four full-fledged EBM initiatives — the Balcones Canyonlands Conservation Plan, the San Diego Multispecies Conservation Program, the Everglades Restoration Plan, and the California Bay-Delta Program — with three landscape-scale initiatives that did not rely on consensus-based planning: the Sonoran Desert Conservation Plan, the Kissimmee River Restoration Plan, and the Mono Basin Restoration. My findings are consistent with some other, less systematic assessments of large-scale, collaborative efforts at environmental management. (Layzer, 2008).

6 For example, in California's Bay-Delta region, the state and federal agencies responsible for distributing water to farms and cities, which had been co-operating with the agencies responsible for environmental conservation, once again began negotiating exclusively with water users as the collaborative CALFED program withered (CALFED is a department within the California Resources Agency that acts as a consortium, co-ordinating activities of the federal government and State of California that are related to water in the Sacramento-San Joaquin River Delta.) (Layzer, 2008).



organizational — of the target ecosystem. In heavily modified ecosystems, where numerous interests have legal and political claims, it is far more difficult to generate the political will necessary to pursue an environmental goal above all else. Under such conditions, proponents must be particularly talented at framing the problem in ways that enable construction of broad pro-environment coalitions.

### **An Enhanced Federal Role?**

Initial assessments suggest that a strong federal role, although not a panacea, can mitigate some of the weaknesses of EBM. First, stringent federal regulations can promote environmentally protective regional initiatives. In the United States, many EBM initiatives have been spurred by the threat of federal regulation, particularly the ESA, but also the *Clean Water Act*. The more stringent the regulation, and the more strictly it is enforced, the more likely it is that EBM will yield environmentally beneficial results. This makes sense. At the local and regional levels, development interests hold disproportionate sway over the decision-making process; it takes a substantial incentive simply to get them to the table. Once there, they are unlikely to make concessions, never mind reconceptualize their interests, in the absence of credible threats to the status quo. Federal officials may be loath to embrace the role of “common

enemy” whose “unreasonable” demands force combatants to devise innovative solutions, but the evidence suggests that doing so can be effective.<sup>7</sup>

Second, the federal government can be a crucial source of financial support. Not surprisingly, funding is always a problem for EBM initiatives. In the United States, EBM projects have relied heavily on federal funding; many would not have gone forward without it, particularly with respect to acquiring environmentally sensitive property. In the United States, the 45-year-old Land and Water Conservation Fund (LWCF) has been a crucial source of funding for local and regional projects that involve land acquisition.<sup>8</sup> The Department of Interior also provides financial (and technical) assistance to private landowners who are willing to engage in environmental conservation and restoration through its “co-operative conservation” programs. The federal government is well positioned to levy national surcharges, on electricity consumption, for example, for habitat conservation that can be disbursed to worthy projects.

Third, the federal government can serve as a source of information, co-ordination, and education/outreach. Federal agencies, such as the US Geological Survey, and the Fish and Wildlife Service, have furnished essential information that forms the basis for the integrative science that underpins

effective EBM efforts. Moreover, nearly every current EBM initiative lacks adequate resources to monitor the environmental impacts of interventions. As a result, they cannot engage in adaptive management. Federal agencies can (but in most US cases do not) provide funds for monitoring, as well as the technical expertise to aggregate results in ways that facilitate learning, both within and across EBM projects.

A strong federal role is no substitute for pro-environmental local leadership, which in turn is facilitated by effective mobilization and coalition building by local environmentalists. But federal regulation, strictly enforced, is often an essential precursor to genuine shifts in practice and, more important, it can catalyze new ways of thinking about problems.

### **Conclusions**

In short, EBM holds the promise of achieving results that are superior to those attained using conventional approaches to natural resource management. If taken seriously, EBM offers an opportunity to test the assumptions that underpin the sustainability ideal: that social and economic well-being can be reconciled with environmental health. To date, however, most EBM initiatives in the United States are more consistent with “weak sustainability” — superficial greening of conventional practices — than with a genuine

<sup>7</sup> In California's Bay-Delta region, officials from the federal Environmental Protection Agency explicitly used the threat of *Clean Water Act* enforcement to force the State of California to act. Similarly, environmental advocates often employ the threat of a lawsuit to provoke action.

<sup>8</sup> Congress established the LWCF in 1965. The act establishing the fund mandated that a portion of receipts from offshore oil and gas leases be placed in a fund to support national, state, and local conservation efforts. The LWCF is authorized at \$900 million annually, although that level has been met only twice during the program's 40-year history.

commitment to social and economic transformation. To the extent EBM fails in practice to attain the achievements touted in theory, it is often because of a lack of genuine commitment by local or regional leaders to ecological restoration, and unwillingness to employ stringent regulations.

One factor that will complicate EBM and other place-based efforts is rapidly changing local and regional climates, and the ecological and human behavioural adjustments that will follow. In Florida, for example, scientists recognize that sea-level rise introduces major uncertainties into the Comprehensive Everglades Restoration Plan, and will almost certainly undermine many of the projects that have been undertaken or are currently in the pipeline. The inevitability of climate change suggests that EBM initiatives should be even more environmentally precautionary than they might be otherwise, to ensure the resilience of natural systems in the face of extraordinary stress. 🌍

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## **Abstract**

This article focuses on Australia's 56 designated regional organizations with devolved responsibilities for managing land and water resources, and the national programs that have underpinned their establishment and development. Australian governments have driven decentralization in the arena of watershed management over the past 20 years. The redistribution of centrally collected taxes through national programs has progressively transferred power from state and territorial governments to the federal level while, at the same time, variously empowering stakeholders at local and regional levels. In doing so, federal governments (and their national programs) have facilitated greater integration across the bio-

Australia's decentralized arrangements for watershed management: the National Landcare Program, Natural Heritage Trust, Natural Heritage Trust Extension, National Action Plan for Salinity and Water Quality, and Caring for our Country. With a new federal government in 2007, the emphasis given to decentralized arrangements diminished. Under Caring for our Country, the federal government has stressed the need to take a business approach to investment and to better target national priorities. In doing so, it has channelled more resources directly to local groups (rather than via regional organizations) and put in place measures to enable non-governmental organizations, regional bodies, and government agencies (local, state/territory, and federal) to compete for a greater proportion of funds. Many regional organizations have had to downsize in response, and their capacities to build local collaborations and pursue integrated approaches to watershed management have been compromised.

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# **National Grants: A Mechanism for Embedding Decentralized Governance Arrangements for Watershed Management**

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## **The Regional Model**

**L**ike Canada, the Australian constitution vests power over the management of land and water resources primarily at the level of the states (or provinces) and territories. Approaches to planning, implementing, and reporting on aspects of watershed management across Australia's six states (New South Wales, Queensland, South Australia, Tasmania, Victoria, and Western Australia) and two territories (Australian Capital Territory and Northern Territory) are therefore inherently diverse and changing.

physical, social, and economic dimensions of watershed management. This article outlines a number of national programs of relevance to

Unlike Canada, successive federal governments in Australia have encouraged and supported decentralized arrangements. Powell (1993: 51) argued that the regional idea “suggested enough logic and convenience to convert pragmatists and rationalists of various political persuasion in Australia” and that the “ALP (Australian Labor Party) intellectuals applauded it as a special ‘democratising device’, for the articulation of local needs and the efficient delivery of nationally coordinated programs.” Decentralization has been used as a strategy for achieving greater convergence and consistency among jurisdictions, including setting strategic directions and priorities, as well as approaches to implementation and reporting. Large-scale national grant programs (which redistribute centrally collected taxes) have been the primary mechanism through which this alignment has been pursued. Access to program resources is predicated on each state/territorial government signing a bilateral agreement with the federal government, which generally requires matching cash and/or in-kind contributions. While participation is voluntary, those governments that do not align their strategic directions (and resources) with those of the federal government forgo a significant injection of resources.

This article focuses on the emergence of Australia’s formal network of 56 regional organizations with responsibilities for aspects of watershed planning and management (see Figure 1). These entities are the primary vehicle through which major national programs are delivered. Colloquially, they are referred to as natural resource

**Figure 1**  
**Australia's 56 NRM Regions**



Source: Robins and Dovers (2007a: 274).

management (NRM) regions and the regional model. Natural resource management, in the Australian context, is used quite loosely and best translates as watershed management in the Canadian setting. Many NRM regions started in response to demand from communities (bottom up) but have been moulded, homogenized, and professionalized to deliver (top down) programs on behalf of state/territory governments and especially the federal government. These responsibilities include further devolution of grants to local groups within the region, and supervising and reporting on that expenditure.

The 56 regional organizations vary in corporate form (statutory authorities, incorporated associations, limited companies, bodies corporate) and staffing levels (5-75 members). Each is governed by a board of management

consisting of representatives of the major stakeholder interests (6-20 members), whose members are generally appointed by the responsible minister at state/ territory level (Robins and Dovers, 2007b).

Regions differ significantly in their historical, cultural, social, political, ecological, and economic contexts and capacities, and their functions often extend beyond delivering state/ territorial and national programs. Their boundaries have been strongly influenced by the philosophy of integrated watershed management, referred to as integrated catchment management (ICM) or total catchment management (TCM) in the Australian setting. However, ecological boundaries, such as ecological vegetation classes (EVCs), rather than watershed boundaries have been a greater determinant in flatter parts of the continent.



While decentralized organizations exist in Australia within the context of a national framework, no such national consistency exists in Canada. Instead, different decentralized governance bodies have developed in response to provincial/territorial needs and concerns (e.g., Alberta's watershed planning and advisory councils, British Columbia's Fraser Basin Council, Manitoba's conservation districts, Ontario's conservation authorities, Quebec's watershed organizations). Robins (2007) identified and discussed 115 decentralized organizations in Canada with responsibilities for watershed management as potential building blocks for nationwide governance arrangements and capacities that could be more purposefully evolved. A comparison of capacity challenges with Australia is made in Robins and de Loë (2009).

The sections that follow outline the national programs of central relevance to the emergence of the decentralized arrangements.

### **National Landcare Program**

The launch of the National Landcare Program (NLP) (and the decade of landcare) by the federal government in 1990 marked a tipping point in the management of land and water resources in Australia. The program sponsored the formation and activities of local landcare groups with an interest in improving land and water management. Campbell (1994) described "landcare" as landholders

working together with government to solve local problems. It marked a paradigm shift from focusing on the individual farmer and that farmer's property to sponsoring local community groups, and building relationships and networks at the local community level. It also marked a shift in emphasis from single- to multiple-issue programs. The NLP followed the successes of state government initiatives in Victoria and Western Australia, and emerged in response to joint lobbying of the federal government by the Australian Conservation Foundation and the National Farmers' Federation.

In only four years, about one third of all farming families across the country were represented on more than 2,000 landcare groups (Campbell, 1994). This social phenomenon came to be referred to as the landcare movement. Today, there are around 4,500 landcare groups involving about 40 percent of farmers (Australia, DAFF, nd). The landcare model has been adopted in other countries, including New Zealand, South Africa, and the Philippines. For an example in Canada, see Land Care Niagara (nd). Landcare is a cornerstone of Australia's approach to land and water management. Its popularity and broad-reaching participation has seen the NLP remain a subset of subsequent national programs, including the current Caring for our Country initiative (A\$189 million over five years from the total budget of around A\$2.25 billion).

### **Natural Heritage Trust**

Just over half way through the decade of landcare, the incumbent federal government lost office. The incoming government had campaigned to increase resources significantly for land and water management subject to the partial sale of Telstra (a wholly owned public telecommunications company). In keeping with this election promise, the Natural Heritage Trust (NHT1) was established to address pressing environmental issues whether at a local, regional, state, or national level. It formed an umbrella for a suite of federal initiatives, including landcare, bushcare, and coastcare programs. It invested A\$1.25 billion over five years (1997-1998 to 2001-2002).

The NHT1 emphasized the need for better integration both across issues (e.g., weeds, salinity, soil erosion) and across scientific disciplines (social, cultural, economic, ecological). It adopted a more businesslike approach than earlier programs, with much greater emphasis on monitoring and evaluation. Funding application and assessment processes were significantly more detailed, and new accountability arrangements necessitated greater data collection, analysis, and reporting. Local-level community groups became disgruntled with high workloads and funding delays, and some groups became inactive. Regional organizations, where established, were often better positioned to meet the growing demands for specifying, justifying, and accounting for projects.

As the end of the NHT1 (and the decade of landcare) neared, the National Land and Water Resources Audit (Australia, LWA, nd) consolidated a significant body of evidence to support the need for much greater action and resources to address the country's natural resource degradation issues. At the same time, it became clear that local actions alone would not achieve the landscape scale change required to address these problems. The local care-based approach was perceived as a success at raising community awareness and engagement, but a failure at achieving co-ordinated, larger-scale change. The policy agenda therefore needed to respond by giving greater emphasis to regional scale planning and approaches.

### **Natural Heritage Trust Extension and National Action Plan for Salinity and Water Quality**

The Natural Heritage Trust Extension (NHT2) invested A\$1.75 billion over six years (2002-2003 to 2007-2008) to help restore and conserve Australia's environment and natural resources through biodiversity conservation, sustainable use of natural resources, and community capacity building and institutional change. At the same time, the National Action Plan for Salinity and Water Quality (NAP) invested A\$1.4 billion over eight years (2000-01 to 2007-08) in 21 priority regions (comprising at least parts of about 30 NRM regions) as an initial step to achieving major systemic improvements in land and water management

in regions highly affected by salinity, or contributing to salinity and water quality problems elsewhere.

Like the NHT1, both the NHT2 and NAP required signed bilateral agreements between the federal and state/territorial governments; the process of which was lengthy and contested in some jurisdictions (NHT2: December 2002 to June 2004; NAP: June 2001 to September 2003). Under these agreements, regional NRM organizations were charged with developing, implementing, and monitoring regional NRM plans and investment strategies. In some parts of the country regional organizations needed to be created to access the available resources.

A regional NRM plan was required to identify the assets for protection (e.g., town water, wetlands, forests) and set and monitor targets (aspirational, achievable resource condition, and management action). The submission of regional plans and investment strategies for accreditation by the federal government was required within 12 months. During this 12-month period, many local groups were left stranded without the resources to support their activities. Following accreditation, the regional organization could allocate resources (e.g., to landcare groups) within the context of the approved plan. However, the shift to a more targeted approach and larger-scale activities meant that some local groups either became ineligible or were deemed a low priority for funding, while those in priority areas received substantial resources.

The NHT2 and NAP have been instrumental in driving the formalization process of NRM regions and their management structures across Australia. They have prompted legislative amendments at the state/territorial level, as well as the restructuring of government agencies and research agendas. However, the approach to program delivery has disenfranchised some individuals and stakeholder groups, including those local groups experiencing greater bureaucracy and less access to resources than in the past. The programs have also alienated state agencies by establishing a network of federally employed facilitators (traditionally employees of state/territorial agencies) at the regional level to report directly to the commonwealth.

### **Caring for our Country**

When a new federal government took office in 2007, Caring for our Country (CfoC) was developed to replace the NHT2 and NAP at their conclusion in June 2008. The program provides A\$2.25 billion from 2008-2009 to 2012-2013. It focuses on six national priorities:

- national reserve system;
- biodiversity and natural icons, including weed and feral animal control, threatened species;
- coastal environments and critical aquatic habitats;
- sustainable farm practices, including landcare;
- natural resource management in remote and northern Australia; and



- community skills, knowledge, and engagement.

The new federal government stressed the need to take a business approach to investment and to better target national priorities. In the transition year (2008-2009), the program guaranteed that regional organizations would receive at least 60 percent of the average annual allocation received from the federal government under the NHT2 and NAP (Australia, CfoC, 2009b). It introduced a more competitive approach to funding by running an open grants process to “provide the opportunity for non-government organisations, regional bodies, Local Government and State, Territory and Australian Government agencies to compete for a greater proportion of funds” (Australia, CfoC, 2009a). Some regional organizations have had to reduce their staff numbers significantly as a result of reduced resources.

The program is characterized by its more narrow scope than the NHT2 and NAP. The centrality of regional NRM plans as the platform for allocating funds has lost ground and, with it, integrated approaches to watershed management. Significantly more funds are being channelled to individual local groups independent of regional priority-setting processes. The pendulum has also swung toward short-term and tangible gains at the expense of tackling complex problems requiring integrated thinking and solutions.

## Conclusion

This article has focused on the potential for national programs as a mechanism for embedding nationwide

decentralized arrangements for watershed management. While Australia's regional model is reportedly the preferred approach to NRM delivery (ABARE, 2006), including among indigenous peoples (Keogh et al., 2006), it is also the subject of criticism (e.g., legitimacy, democracy, accountability). Evaluations and audits of past programs have identified ample scope for improving program logic, delivery, and reporting, and highlighted the need to foster synergies and collaborative (rather than competitive) relationships between local and regional levels. The current program, Caring for our Country, has seen a swing in emphasis from the regional level back to local groups, and away from integrated planning and long-term outcomes to a narrower, more tangible, and short-term approach. The challenges of sustainably managing land and water resources are great, and the leadership of the federal government, working collaboratively with state/territorial counterparts, is an important ingredient in building the community capacity needed to realize landscape-scale change. The current federal government has not succeeded (thus far) in delivering a devolved, participatory and integrated agenda for watershed management in Australia. ●

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## Issue

**T**he lines between international development and domestic policy are blurring. While the former addresses differences in growth, poverty, and inequality between countries, the latter must address such differences within a country. Throughout the Americas, from Canada to Chile, a new generation of data sets is giving researchers a new perspective on how the opportunities for development vary and why different places benefit (or not) from national-level policy. Identifying where successful development is occurring is the first step toward understanding what drives some rural territories to thrive while other stagnate.

a collective sense of social identity. Rural territories build on the idea of farming systems, or the study of farms that face similar opportunities and constraints in terms of crops, soils, technology, and livelihoods. A rural territory includes the landscape covered by a group of people, their economic activities, and their relationships with the surrounding economy, society, and environment. While some rural territories are based on farming, others rely on fishing, forestry, mining, tourism, manufacturing, or some combination of activities. Examples include a coffee-producing region in Columbia, sugar cane and irrigated agriculture surrounding Petrolina-Juazeiro, Brazil, and mining and agriculture in Michoacán, Mexico. Each of these rural territories encompasses a distinct economy, with a particular set of dynamics that drive development at the local level.

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# Balancing Geography: New Insights into Rural Development in Latin America

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## Approach

Over the past two decades, researchers in Latin America have refined the concept of “rural territories” – spatial areas that combine economic activities with

The Latin American Center for Rural Development (RIMISP), a regional organization based in Santiago, Chile, pioneered the study of rural territories. Since 1986, RIMISP has been at the forefront of knowledge on changes affecting rural communities. The Center conducts its own research, trains young professionals, and co-ordinates a research agenda involving numerous partners throughout South and Central America. Center researchers work closely with people living on marginal lands, who tend to be excluded from national development, and seek to ensure these people benefit from the research conducted by RIMISP. The hypothesis behind the current program on rural territories is that development

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outcomes are influenced by changes in local institutions and the structure of the local economy.

## New Geography

Worldwide, there is renewed interest in the spatial distribution of development outcomes. Much commentary has focused on the growing economic and political importance of India and China, yet these countries are the tip of the iceberg of new insights within both international and rural development. The 2009 edition of the World Bank (2008) World Development Report examined the interplay of increased population density, reduced distance to economic opportunities, and reduced barriers to the movement of people, goods, and ideas. At the same time, the Internet provides researchers with unprecedented access to data on local administrative divisions below the national level. Such data allow analysts greater freedom to explore more nuanced dynamics at regional, county, municipality, and district levels.

Mapping economic growth, poverty, and inequality within central Chile shows some municipalities have achieved development outcomes that are comparable to Europe, while other areas experience outcomes that more closely resemble conditions found in Africa. In short, comparing regions within a single country reveals greater variation in development outcomes than the differences between countries. Conditions that resemble both the developed and developing world can be found within national borders. An inward look at where development occurs provides a

starting point for understanding the internal dynamics that drive growth, poverty, and inequality.

## A New Look at Latin America

With support from Canada's International Development Research Centre (IDRC), RIMISP co-ordinated the compilation of data for close to 10,000 local administrative divisions across 11 countries in Central and South America. National partners were directly involved in the work in each country. The RIMISP team focused on three indicators of development: economic growth in terms of per capita income, the incidence of poverty in terms of the percentage of households below the poverty line, and inequality in terms of the Gini coefficient that measures the distribution of income.

Given the differences in the methods used by statistical authorities to collect data in different countries, the results are not strictly comparable between countries. The research team also intended to include indicators of environmental quality, yet such data proved harder to find and was not as widely available for all locations. The data are nonetheless sufficient for the purpose of the RIMISP team, which was to identify potential success stories: those regions experiencing qualitative improvements in all three indicators over time. The RIMISP team used maps to identify sites for case studies to further identify what was driving development in these locations.

National maps were produced using small area estimates, an econometric technique that combines data from the national census with household surveys (Elbers et al., 2002). The maps compared data from the 1990s and 2000s, to show how development outcomes had changed over the decade. The maps indicated that about one in ten *municipalidades*, equivalent to the county level in Canada, had experienced a triple win of economic growth with reduced poverty and inequality.

Beginning at home, the RIMISP team mapped data for Chile, a country that is widely considered a development success. Two thirds of the *municipalidades* saw reduced poverty or inequality in the absence of economic growth, suggesting that such gains were more due to transfers and social welfare programs than an internal dynamic of development. Meanwhile, national success seems to owe more to the five percent of the regions mapped that exhibited simultaneous improvements in growth, poverty, and inequality.

Throughout the 11 countries studied, the regions that did experience a triple win (growth with reduced poverty and inequality) were home to over 27 million people. This suggests that important dynamics exist that are overlooked by national averages. Probing deeper, regression analysis showed that this pattern of development could not be easily explained by investments in infrastructure, education, or electrification. Something else occurring in these particular regions warranted further study.

## Salmon and Jobs on Chiloe Island

One such case study examined the island of Chiloe in southern Chile, a site that had experienced rapid expansion in salmon aquaculture. Chiloe has traditionally been isolated from the urban centres and agricultural opportunities that drove development elsewhere in the country. The arrival of salmon farms thus proved to be a boom for the region. Within a decade, jobs in farming and processing salmon boosted incomes and halved poverty on the island. The local population also began to grow as people moved to the island in search of work, reversing a previous trend of out migration.

This success created a coalition among salmon companies, local people, and government. Aquaculture was initially dominated by Chilean firms, but soon foreign investors from Norway and other European countries took over much of the industry. With the promise of further investment and jobs, people voted for and supported the local government.

Governments adopted numerous policies intended to nurture and grow the industry. First, they allowed the privatization of rights of access of coastal areas. Such rights were intended to provide more certainty and better guarantees for private investment in the farms. Second, the aquaculture industry was

allowed to regulate its own environmental impact. Third, public investment took place; Chile's government built roads and industrial parks to move and process farmed salmon, and supported research and education to provide knowledge and workers for aquaculture.

The result was a stable coalition, or institutional arrangement, that benefited all concerned. Firms thrived under policies that enabled the industry to grow, people enjoyed increased employment, and government held the support of the firms and voters.

Yet this coalition is also an example of institutional myopia, an inability to detect and respond to potential threats. Despite increasing marine pollution over the decade, little action was taken as it was assumed that the industry would regulate its own impact. At the same time, the increasing number of farms created dense populations of genetically similar Atlantic salmon, a condition that allowed for the rapid transmis-

sion of infections. In 2008, infectious salmon anemia spread throughout the region, decimating the farmed stocks. Within a year, one third of the work force was unemployed and the prospects for continued development were very doubtful.

In short, the apparent success story of Chiloe is a warning. The coalition that formed among industry, people, and

government invested in optimizing aquaculture and assumed the gains could be sustained over time. Yet the triple win of rapid economic growth with reduced poverty and inequality had been generated at the cost of rapid degradation of the local environment to support salmon.

Researchers with RIMISP continue to compile detailed case studies on other locations throughout Central and South America. Once completed, the research team will be in a better position to assess whether such institutional myopia is widespread and can identify where gains in human development also enhance the quality of the local environment.

## Reaching Out to Audiences

Beyond co-ordinating research, RIMISP actively engages policy communities through the Americas and beyond. In particular, RIMISP has formed two networks to reach out to the parties involved so they can learn from and act on the insights provided by this research. The first brings together provincial premiers and state governors throughout the Americas via annual in-person meetings and study tours. The second brings together journalists that cover rural issues to share stories, ideas, and analysis. Each network represents a key audience for RIMISP research and is supported by two Internet sites: the blog of Red Prensa Rural (nd) and Red de Gobiernos (nd). Both networks have members in Canada, for example providing a platform for the province of Quebec to share its experience in developing a rural pact to foster local



innovation. The RIMISP team has also reached out to Canadian researchers, for example working with the University of Saskatchewan to examine how similar maps and coalitions might explain development patterns in Canada's north and the opportunities of Aboriginal communities.

## Policy Implications

The experience of using rural territories to map and study local development suggests two sets of implications.

First is the need to understand what drives development at the local level. National trends can hide important dynamics of where and why development occurs. General policy prescriptions for rural development can miss the mark if they are not adapted to local conditions. Analysts should identify who benefits from development, the coalitions of actors involved, and understand how they favour particular economic opportunities. This requires understanding the political dynamic

among different actors and institutions that influence the distribution of assets and resources. The nuanced story of Chiloe further suggests the risk of institutional myopia and the possibility that existing coalitions may fail to detect and respond to changes in the local environment.

Second, higher-level authorities (whether federal governments or development agencies) must consider how their policies play out in different places. National policies cannot be one size fits all; instead, they must balance the provision of meaningful direction with the ability of local actors to adapt such policies to local opportunities. Federal and provincial/state governments can play a dual role, fostering innovation while challenging local coalitions to avoid the myopia of short-term gains at a cost to the local environment.

As the world nears the deadline for the United Nations Millennium Development Goals, future gains increasingly

rely on addressing "hotspots" of poverty and inequity below the national level to know what drives development in particular locations. Place-based approaches show how different policies and practices interact. For example, changing environmental conditions influence economic and social opportunities. In short, there is a need to go beyond national averages. Mapping and studying rural territories offers one such approach. ●

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### Setting the Context: The Need for Managing Complexity

Individual choices made by decision makers will always have secondary impacts, both positive and negative. Many of these secondary effects may impact sectors or jurisdictions beyond that of the decision-making authority in question. Since impacts are non-linear - in the sense that they are multiplied or compounded - and sometimes offset the effects of other activities taking place within a region. Understanding the extent and nature of such cumulative, interactive, and compound effects of ongoing decisions is essential to manage competing and conflicting demands and priorities, and ensure the

no single source or cause that can be pointed to, or managed to mitigate these trends. Moreover, they may not only be the result of many interacting events and activities taking place in an area, but the result of activities undertaken in the past, or in regions far removed.

It is difficult to find ways to explore this complexity from a knowledge and information perspective. Yet, this is not the only difficulty with which managers and decision makers who are interested in tackling complex regional issues must contend. There is also the significant problem of how existing sectorally divisive governance structures limit (and complicate) efforts to address issues of regional importance from a trans-sectoral and trans-jurisdictional perspective. There is little precedent in doing so; the problem of boundary in the context of integrated management (IM) is a major barrier to whole system approaches to managing complexity and risk (e.g., Balaguer et al., 2008; Folke et al., 2005; Mitchell, 2005; Pollard and du Toit, 2005). Legislation has tended to arise in response to specific problems, such as the loss of species or the release of contaminants, often specific ones, which means that most policy and management tools were set up to address very specific and narrowly defined, sectoral objectives. Few tools are available to address trans-sectoral complexities.<sup>1</sup> Implementation of existing acts might benefit from IM.

It is often the case that many of the historic issues or problems continue to persist today, which means that the day-to-day efforts and attention of

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## The Role of Institutions in Integrated Management

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sustainability of our natural systems, communities, and overall socio-cultural well-being.

Increasingly, the implications of our issue-by-issue and sector-by-sector approaches to planning, regulation setting, and management create situations in which we see evidence of scarcity, realized and emerging, in our natural resources, including renewable ones (like water). In nearly all cases, there is

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<sup>1</sup> CESD (2008).



decision-making communities remains focused on reactively managing existing problems, rather than addressing new emerging ones (Meadowcroft and Bregha, 2009). The ability to respond to complex emerging problems depends on the ability of governments to co-ordinate their activities and knowledge quickly and effectively. In fact, there is much precedent in this regard. There are many examples of governments overcoming large-scale, complex, or long-running problems, such as the national scale response to avian influenza. In such cases, complex, far-reaching problems, and risk, are managed through the use of large-scale, co-ordinated trans-governmental responses, which are organized rapidly and led by a mix of disciplinary experts. This responsive governance mobilizes effective information exchange and targets the most “appropriate scale,” bypassing jurisdictional limitations to institute changes at the scale and scope necessary.

The ability to assess information, develop plans, and identify appropriate scales over which issues are considered and acted upon is critical to managing

highly complex problems (EEA, 2001). Since the most effective communication and knowledge sharing systems have a disciplinary basis along professional societies or associations, the bottleneck for knowledge and information transfer is in discovering ways to integrate socio-economic and environmental information across existing sectoral, jurisdictional, and disciplinary boundaries. Even if, or when this is achieved, and available information and data are accessible, the reality is that information will always be imperfect. In other words, the other key challenge, both now and in the future, is how we should consider uncertainty.<sup>2</sup>

Given the realities of managing under existing governance structures, managing complexity requires bringing together the various holders of data and information with the various managers, policy makers, and other implementers of change; and ensuring that relevant policy, legislation, cultural, socio-economic, and environmental considerations within a region are viewed collectively and appropriate management actions are orchestrated and linked to implementable actions.

**Numerous place-based planning and decision-making communities of practice exist across Canada... Although they differ in focus, all are systematic, participatory, scientific, and information-based approaches to risk and planning under conditions of imperfect information.**

## Real Life Examples

Whole system assessments, while appearing daunting and time consuming, are capable of quickly establishing highly effective responses over short time frames. Such responses need not revolve around catastrophic events. Meadowcroft and Bregha (2009) provided some examples. For instance, in the Netherlands, a federal adaptive management framework is being adopted to establish pathways and interdepartmental co-ordination and initiate consultation with stakeholders, facilitate the use of analytical tools to explore scenarios, conduct visioning exercises, and set objectives – again, all recognized features of IM (Bizikova and Waldick, this issue p. 81).

Another example of a government recognizing the need for new governance tools is the regulatory Land-use Framework in Alberta (Alberta, SRD, nd). The Framework was established to enable the management of cumulative effects. Its supporting tool, the *Alberta Land Stewardship Act*, serves as a basis for co-ordination among the multiple stakeholder and interest groups responsible for management and planning, to ensure that cumulative effects of all activities in a region are considered early and on an ongoing basis. In this way, The Act serves as the mechanism to manage the problem of how to set environmental standards that take into account both the combined and interactive effects of growth and development in an area.<sup>3</sup> This is not the only

2 This is variously done through the use of a computer-based scenario or projective models (PRI, 2005a), and by subject matter (disciplinary) experts in multi-stakeholder processes (Meadowcroft and Bregha, 2009).

3 In other words, whereas every sector may operate individually according to established and required environmental standards and practice, their collective impacts exceed what the natural system is capable of sustaining. Water supplies have and are being dramatically reduced in some areas to an extent that conflict is emerging among users (e.g., farmers, ranchers, industry, the public).

Canadian example. Integrated management and planning frameworks and approaches have been appearing increasingly in provincial and territorial contexts over the past five to ten years (Oborne, this issue p. 42).

A nuance worth mentioning here is that while integrating governance models, such as the one in Alberta, use a legislative basis to facilitate planning and management along biophysical boundaries, which represent the true units of impact. Their existence need not change the responsible authority. In Ontario, conservation authorities were set up to allow watersheds to be managed in a co-ordinated fashion. This was achieved through the creation of a forum through which mandated authorities could orchestrate adaptive responses (through integrative and collaborative dialogue) using natural watershed boundaries. Both the Ontario and Alberta acts are examples of how formalized and systematic strategies may be set up to co-ordinate dialogue, planning, and implementation in an ongoing manner. By creating more structured systems, these strategies also address the need for information and data exchange across information boundaries, knowledge sharing, and information management – all essential elements of IM.<sup>4</sup>

### Box 1 Challenges Identified for IM

- Address management and impacts over protracted time frames.
- Address issues over space (i.e., established jurisdictional boundaries) to deal with issues (regional and global).
- Move from established functional and academic specialization to integrative forms (i.e., sectoral basis of government ministries, disciplinary research paradigms).
- Establish strategies and science-based approaches (tools) to better understand uncertainty and unknowns (risk).
- Get support to change established approaches, revisiting desired goals, and the need for change (e.g., move to renewable energies).
- Adopt flexible (adaptive) decision-making approaches.

#### Note:

Integrated management is increasingly emerging in discussions of how to address complex sustainability objectives. Meadowcroft and Bregha (2009) provided a comprehensive discussion on the linkages between IM and sustainable development.

Source: Meadowcroft and Bregha (2009).

### The State of IM in Canada

Numerous place-based planning and decision-making communities of practice exist across Canada. Our initial scan has identified over 80 IM type applications. Although they differ in focus, all are systematic, participatory, scientific, and information-based approaches to risk and planning under conditions of imperfect information. At their core, they consider the impacts of uncertainty and missing information on regional objectives through the use of integrated analytical tools,

including interactions between management or policy activities and cumulative effects. They also establish transjurisdictional management objectives (e.g., policies, regulations); engage and sustain participation by multi-stakeholder collaborators; and make use of scientific, geographic, and socio-economic information from various disciplinary areas (PRI, 2005a,b; see also Box 1).

In a detailed review of 20 Canadian IM communities, it was evident that they are also constrained by the same

<sup>4</sup> (Bizikova and Waldick, this issue p. 81; Liu et al., 2009). As in the Alberta example, capacity demands are substantial to sustain these multi-stakeholder initiatives, and government support in some form is essential to their effectiveness and survival. At present, 36 authorities exist, representing 90 percent of the population of Ontario. Governance is through municipal appointment (most of whom would be elected councillors in the region), and each serves to connect otherwise disparate jurisdictions to integrate and co-ordinate science-based advice, services, and planning. Funding is self-generated, as well as from municipal levies, projects and grants, and federal grants and contracts. The annual budget for program and service delivery is over \$250 million Canadian. For more information, see Conservation Ontario, (nd).



## Box 2

### Practical Applications of IM

1. Environmental assessment (EA) (improved integration, streamlining, development of regional EA processes, strategic environmental assessment).
2. Knowledge co-production (and sharing)
  - system-level exploration of uncertainty and risk (greater temporal and spatial scope and overall complexity of issues considered); and
  - trade-off and cost-benefit analysis expanded in analysis of management and policy options (multiple sectoral socio-economic and environmental/human health information).
3. Land-use planning (including watershed, resource, etc.).
4. Decision support
  - goal (threshold) setting (regional, integrated scope); and
  - policy evaluation (cross-governmental and sectoral).
5. Cumulative effects management.

challenges identified at a practitioner workshop held in 2005 (PRI, 2005b; see also Box 2). The overarching feature of all of these challenges is intimately linked to the “trans” nature of IM, in other words, working across existing information, expert, disciplinary, sectoral, and jurisdictional boundaries. This creates a catch-22 in which, the need to better manage complexity and cumulative effects through integrated planning can be obstructed by the inability of managers to justify activities that extend beyond their individual scope or mandate. The suite of challenges for any IM community, therefore, demands the time and attention to overcome fragmented governance and management systems (including, those behind unco-

ordinated policies, data, and information management) and trying to maintain ongoing engagement and collaboration by all relevant stakeholders (PRI, 2005a,b; Waldick et al., 2006).

### Tackling the Challenges: Federal Roles

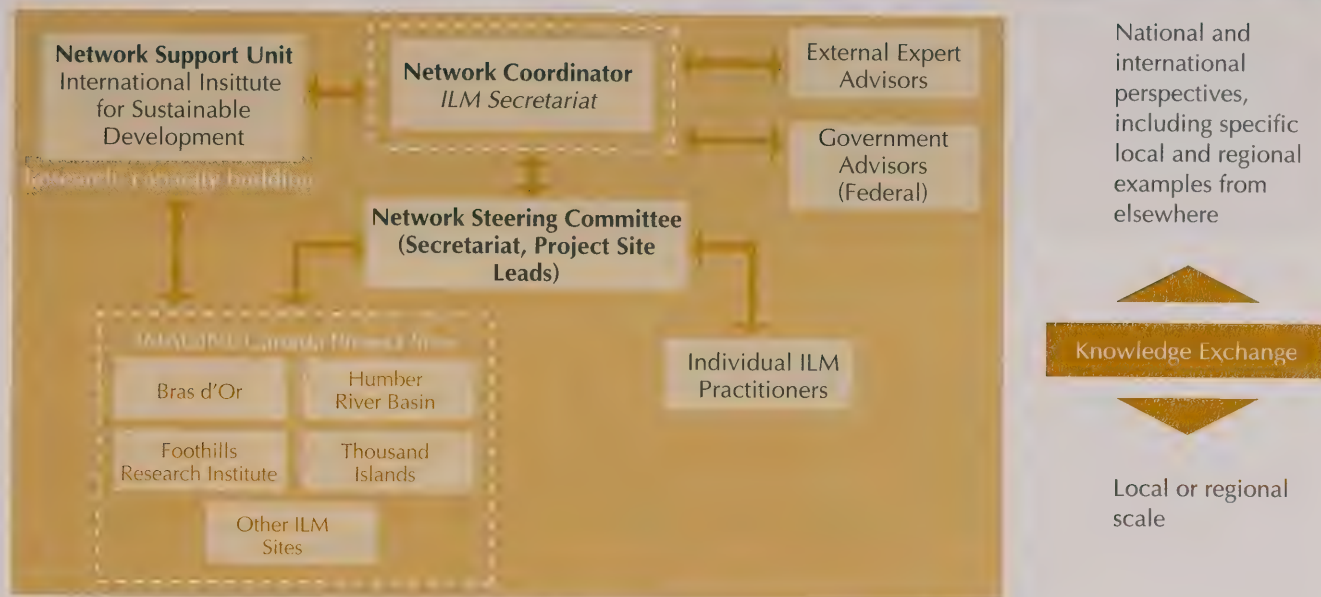
We asked a mixed Canadian and international group of IM practitioners how best to address the fundamental challenge of integration (PRI, 2005b). The result was a descriptive map of a centrally co-ordinated national network, which served to simplify and facilitate all the necessary exchanges, training, and integration requirements of regional practitioner communities (including facilitating peer-to-peer exchange among expert communities).

There was consensus on the need for some form of a central facilitation (co-ordination) entity, with active involvement by appropriately mandated authorities that are able to work across boundaries, with a longer term, big picture perspective of what is going on across Canada. Explicit reference was directed at this being a role for the federal government, since the scope and magnitude of the necessary information exchange, knowledge co-production, and capacity requirements is beyond the authority and ability of provincial governments, the private sector, or non-governmental organizations to facilitate or manage.

However, boundaries were not the only concern. Other pressing needs included security issues, information and data access (and management), and science and technology training and transfer, among others. The federal role in such a centralized network was defined in three ways.

- **Co-ordinate interactions across boundaries.** Facilitate necessary transjurisdictional and cross-sectoral interactions/ forums at relevant scales, clarify roles, responsibilities, and objectives to orchestrate management responses and reduce conflict in policy objectives.
- **Foster knowledge co-production.** Enable exchanges of information, data (including sensitive information or data), and expertise (including trans-disciplinary) and supportive forums in which management needs

**Figure 1**  
Governance Structure of IMAGINE Canada



and risk and planning may be logically addressed (i.e., anticipatory approach to managing uncertainty).

- **Provide a big picture context.** Increase the impact and relevance of policy by identifying synergies or conflicting mandates or objectives to better meet the mandates of all (e.g., local, national, and international objectives). This would also help streamline resource demands (e.g., strategic/environmental assessments) by developing linkages between different policy areas.

To understand the potential of this network vision, and identify potential synergies with the mandates, roles, and responsibility of the Government of Canada, Environment Canada and GeoConnections Canada undertook a test application of the national network idea proposed in 2005 – Integrated Management And Geospatial Information Network for the Environment (PRI, 2009) (Figure 1).

Since the launch of IMAGINE Canada in 2008, the Secretariat, housed in Environment Canada's Science and

Technology Division, has focused on developing capacity, providing training and professional advice, supporting science, data, information, and knowledge acquisition (this includes policy and program information). The Secretariat has also worked with the International Institute for Sustainable Development (IISD), the Policy Research Initiative (PRI), and the Steering Committee to establish a suite of focused, supportive activities and research to address capacity and knowledge co-production priorities.<sup>5</sup>

<sup>5</sup> All the planning and implementing is orchestrated by the Secretariat, with ongoing support from the advisory committees, which provides program and research or technical support (and peer review or validation), the IISD, which serves to deliver capacity to network members, and the PRI. The Secretariat function in the network is central to all activities, from synthesizing, identifying, and co-ordinating the necessary supportive activities, to outreach and training at the national and international levels.



**Table 1**  
**Types of Supportive Activities Contributed to Network Members by Role and Organization**

	Secretariat	Government Advisors	Policy Research Initiative	GeoConnections Canada	IISD	External Experts	Steering Committee	IM Project Teams <sup>a)</sup>
<b>Capacity Development</b>								
Peer-to-peer training	■							■
Data and information support	■	■	■	■	■	■	■	■
Directed training ( <i>delivery in specific fields of applied work e.g., consensus building, scenario planning</i> )	■	■			■	■		
Networking/outreach/partnerships ( <i>e.g., program synergies</i> )	■	■	■	■	■			■
Research support ( <i>lessons learned and other targeted technical or process information</i> )	■		■	■	■	■		■
Funding		■		■				■
<b>Knowledge Co-production (integrating and transboundary activities)</b>								
Mechanisms for information dissemination/sharing/exchange	■		■	■	■			■
Expert outreach ( <i>and networking</i> )	■	■	■	■	■	■	■	■
Forums for knowledge co-production ( <i>integrating science, data, policy, etc.</i> )	■	■	■	■	■	■		■
Integration across levels of government	■	■	■	■	■	■	■	■
Credibility and validation		■				■	■	■
Policy advice and context setting ( <i>e.g., legal and regulatory context</i> )		■	■	■				■
Co-ordinating interactions, planning, and orchestrating engagement and activities of network members	■							■
Monitoring and assessment	b)	■						■

**Notes:**

These activities have been variously achieved through in-person training and workshop events among all network members, as well as on-line (web-based) training and information exchanges. As the project continues, we will continue in this vein, delivering additional peer-to-peer and other expert training events (on-line), targeted research (technical, governance, and practical science and technology), and lessons learned documentation and publication.

- a) Activities occurring regionally, conducted by and for regional network members. These regional activities receive further support from IMAGINE Canada, most of which is complementary or in addition to ongoing regional transboundary activities.
- b) Monitoring and assessment occurs within the Secretariat with regard to meeting the needs, priorities, and objectives of the network as a whole,

including delivery of specific elements to regional teams to enable them to address complexity and uncertainty (e.g., integrated planning and cumulative effects assessment). This is in contrast to the monitoring and assessment by specific government departments and agencies, and other authoritative bodies in the regions and centrally, which will be linked to specific mandates, program activities, etc.

The use of a centralized network provides a wide range of supportive activities to regional practitioners in a timely manner because it brings together expert professional communities capable of providing input, advice, and support on an as needed basis (i.e., addresses networking, engagement, and capacity requirements across boundaries) and provides a broader context for integrative work and research that expands opportunities and leverages ongoing program and research work (also reducing duplicative efforts), and facilitates knowledge transfer across Canada, and internationally.

## Moving Forward – Next Steps

It is apparent that some challenges exist to whole system management (i.e., IM, ecosystem-based management, integrated water resource management, etc.) that are intimately connected to existing governance structures and approaches to managing issues. Given that many of these have to do with working across boundaries, cumulative effects and risk management, and big picture issues, many of which are international in their scope, one objective of IMAGINE Canada is to examine these in the context of synergies and linkages among existing federal priorities and

program activities. In other words, look at the full range of complementary roles, priorities, and activities and examine how integration would advance them collectively. Potential linkages would include the use of IM for more strategic and efficient information transfer and risk assessment to increase the efficacy of environmental assessments (regional EAs), improve the ability to address sustainable development and cumulative effects management, as well as coordinate plans to meet international objectives (e.g., biodiversity, climate change).

Over the next eight months, the Secretariat, IISD, PRI, and GeoConnections will publish a series of research and lessons learned insights based on experiential as well as experimental information from this work. Specific assessments dedicated to the roles, benefits, and opportunities for the federal government will be addressed. These include how the centralized framework could advance co-ordination and transfers across boundaries to better (and more rapidly) support planning and environmental assessment priorities, which would include consideration of science, innovation, and risk assessment, as well as geospatial data, data standards, etc., and the federal government's role in improved (better co-ordinated and

orchestrated) management and decision making through expedient use of best available data for knowledge co-production. In this context, it is also important to understand the existing capacity (both federal and non-federal) and capacity needs to support whole system approaches in Canada. ●

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## First Nations Communities in Crisis Initiative (FNCICI)

In order to support the health and resilience of First Nations in acute situations, Health Canada established the First Nations Communities in Crisis Initiative (FNCICI) in 2007. FNCICI's approach recognizes that a community health program must be community-based and holistic in order to succeed. It also recognizes that in order to improve the overall health and well-being of community members, programs must systematically improve the social determinants of health, which often fall outside of Health Canada's mandate. In order to do this, the barriers incurred by different accountability regimes, reporting requirements and funding mechanisms used by different departments and agencies must be removed.

Health Canada is collecting evidence on Indigenous health issues by sponsoring literature reviews and analytical studies and by looking to past examples of situations where First Nations had experienced crisis.

FNCICI is also working with the regional offices of Health Canada and INAC and the Ontario Ministries of Aboriginal Affairs and Children and Youth Services to establish up to five pilot projects in First Nations communities in Northern Ontario. The pilot projects will identify community strengths and needs and translate them into comprehensive community plans that address key social determinants of health in culturally appropriate ways.

A more detailed description of this initiative can be found on the Policy Research Initiative web site at <[www.pri-prp.gc.ca](http://www.pri-prp.gc.ca)>.

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## Introduction

Many of today's social and environmental problems will not be solved without a fundamental review of how we explore the interactions between humans and nature (Tippet et al., 2007). However, we not only need to investigate and better understand these interactions, but also to translate them into policy-relevant outcomes to guide resource management. This is not a simple task. The cost of failing to consider how individual local decisions interact across sectors and across spatial and temporal scales may be significant. In some cases, such costs may continue long after corrective policy actions have been taken (e.g., asbestos, ozone depleting halocarbons) (EEA, 2001).

cant challenge confronting decision makers at all scales and across all sectors is in finding ways to ensure that relevant scientific knowledge is available (in real time and appropriate scales); and such knowledge and information can be appropriately considered within the context of complex regional planning processes, which must consider multiple disciplines, stakeholder groups, and objectives.<sup>2</sup>

Integrated management (IM) approaches, like the *Alberta Land Stewardship Act*, have emerged as promising ways to address trade-offs, explore risk, and consider best options within the context of socio-economic and environmental priorities over time and space, and across jurisdictions. Integrated management can be thought of as one or a series of approaches to managing diverse human activities at regional or larger scales that have developed in the last 50 years or more. It follows in a tradition that includes approaches, such as integrated resource management, integrated watershed management, comprehensive regional land use planning, and ecosystem-based management, among others (Hanna and Slocombe, 2007). While IM applications initially tended to focus on describing ecological and biophysical systems through the use of biological models, they quickly evolved into integrated "whole system" models that frequently used spatially explicit

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# Informing the Policy Process through Integrated Management

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The substantial investments governments make in supporting science and technology reflects the importance of knowledge and research.<sup>1</sup> One signifi-

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1 In the United Kingdom, the government set a target of 2.5 percent of gross domestic product (GDP) for research and development (UK, 2004). In Canada, the government committed \$5.1 billion dollars for science and technology initiatives in 2009 (NCE, 2009).

2 An example of such an approach is the recently enacted *Alberta Land Stewardship Act*, 2008, which emphasizes integration of policy and planning processes as well as the use of monitoring and research information across scales.



## Box 1

### The ten IM Projects and Methods

The selection and the evaluation of the case studies research was based on a variety of data sources and analysis techniques, including practitioner and academic literature reviews and interviews with key team members from the analyzed projects.

1. Participatory Integrated Assessment of Water Management and Climate Change in the Okanagan Basin (PIA – Okanagan)
2. Georgia Basin Futures Project (GBFP)
3. From the Corn Belt to the Gulf: Societal and Environmental Implications of Alternative Agricultural Futures (Corn Belt)
4. Willamette Valley–Puget Trough–Georgia Basin–Ecoregional Assessment (EvoLand)
5. Coast Information Team (CIT) program, British Columbia
6. Integrated Grid-Based Ecological and Economic (INGRID) landscape model
7. Sustainability Impact Assessment: Tools for Environmental, Social and Economic Effects of Multifunctional Land Use in European Regions (SENSOR)
8. Lake Balaton Integrated Vulnerability Assessment and Adaptation Strategies (Balaton)
9. Advanced Terrestrial Ecosystem Analysis and Modelling (ATEAM)
10. Pathway – A Vision for Tahoe's Future (PATHWAYS)

models to explore uncertainty and cause-and-effect responses in the late 1980s and 1990s (Stevens et al., 2007). Although most IM projects tend to be set up to deal with specific local or regional issues, such as forest management, erosion, impacts of climate change, conservation planning, etc., they nevertheless share common features. In fact, the general framework for IM always includes the following steps:

- Assess past and current conditions and trends of the local and regional systems by collecting data, identifying indicators, and creating integrated models, which may be qualitative (descriptive) and/or quantitative.
- Build future scenarios and pathways of change using either existing or new integrated models (i.e., computer-based systems models) or

descriptive models, which assist in the envisioning of medium- and long-term conditions for the region of interest.

- Establish plans and objectives to attain these envisioned conditions.

At each step, IM project teams need to reach across different disciplinary, theoretical, and methodological boundaries through interactions between natural and social researchers, policy makers, managers, and other stakeholders. This means bringing together issues and all necessary stakeholders as part of the research process thereby allowing exploration of the linkages across disciplines. This continued integration is essential in developing insights into complex processes that often operate across more than one scale. Integration also requires adjusting research processes and outcomes so they provide the necessary support for decision makers (Parker et al., 2002). This would include, for example, a shift from more traditional question-based research approaches to more exploratory approaches focused on uncertainty and risk associated with diverse processes and potential policy choices.

Because IM projects are place based and problem driven, much of the progress in integration with policy making has been made in the particular context of individual projects, which has meant that the transfer of lessons learned is limited. In this paper, we compare and contrast the experiences and lessons learned from ten individual IM projects from across Canada, the

United States, and Europe (see Box 1) with a specific focus on two key challenges to integration.

- Integration across diverse knowledge domains (scientific, traditional, and local knowledge) is necessary to address the differences among scientists in various disciplines and between scientists and stakeholders, including decision makers and the community.
- Integration across diverse purposes (producing high-level scientific outcomes and being relevant for policy making and management) is needed to address the differences between objectives and outcomes required by scientists and their institutions, and outcomes relevant for resource managers and policy makers.

We provide examples of approaches used by the reviewed IM projects to illustrate how the integration of disciplines, stakeholders, and outcomes in the context of policy making was achieved.

### **Integration across Diverse Knowledge Domains and Stakeholders**

By integration of this type we mean that different disciplines and knowledge communities are bridged and their knowledge fused together to address a research question (Tress et al., 2007), to contribute to a better understanding of landscapes and solve problems related to planning and policy development. This requires bringing together researchers from

#### **Box 2**

##### **Examples of IM Stakeholder Groups: Inclusivity under the Alberta Land Stewardship Act**

- All provincial government departments and decision-making boards and agencies
- Municipalities and local government authorities
- Industry, including companies with mineral rights leases and forestry management agreements as well as agricultural operations
- All Albertans

different academic disciplines with non-academic participants, including government officials, land managers, and the general public to address relevant questions effectively. With this approach, the IM project reflects the particular context of the landscape and societal actions including potential policy responses.<sup>3</sup>

Integration across different knowledge cultures including natural sciences, social sciences, and humanities is often challenged by a lack of common terminology and by separation of those using quantitative versus qualitative approaches. Rather, the process of integration of different disciplines should be conducted according to what is thought to be appropriate to the problem and issues at the particular landscape level. The goal is not to end up with an integrated model describing current systems, trends, and future scenarios as a finished product, but to adapt the model or IM process so it becomes a vehicle of problem exploration and a tool for communicating among diverse researcher and stakeholder groups (Parker et al., 2002).

Experience from the projects reviewed shows that the effective integration of data and models representing environmental, economic, and social domains at the landscape level would require attention in the early stages of project development. Most of the models were created by an interdisciplinary team of researchers involving stakeholders for consultations on issues such as the relevance of the results and recommendations. To enhance this process, it would be beneficial to review the accessible inputs, desirable outputs and products, and the planned model or process structure when the actual framework is being developed. Furthermore, it would be useful to review current data sets and monitored indicators to assess their suitability to reflect on changing socio-economic and environmental conditions, their usefulness in envisioning and monitoring future scenarios and policies, and their suitability in policy and regulatory planning. As suggested by the reviewed studies, this could be achieved by establishing an independent board to design and manage the information, assessment, and

<sup>3</sup> This type of research is often referred as transdisciplinarity.



modelling, or assessment parts of the IM project. The board should consist of respected members of the various knowledge communities — science, humanities, technical/practitioner, and local — aspiring to a balance among them and within each community (CIT Review, 2005).

Finally, engaging with diverse stakeholder groups including local and regional resources, managers, and policy makers, in IM projects lets users participate in a debate about desired management alternatives while continually refining their understanding of what their priorities are, what could be considered as feasible outcomes and how they see sustainability at the particular landscape level and beyond. In this sense, an understanding of what sustainability means — and what it might entail — emerges from interactive engagement among researchers and involved stakeholders (Robinson, 2008). However, from among the analyzed projects, only a limited number considered an explicit investigation about what long-term sustainability means for the different stakeholders and reflected this in their methodological approach. Creating space for stakeholders and decision makers to express their views on sustainability at the landscape level and then considering them in the research process is an important step to increase

the sense of co-production and ownership stakeholders feel of the project's outcomes and their usability.

### **Needs for Integration across Diverse Purposes, Objectives, and Outcomes**

In general, science and policy serve different purposes, and scientists and decision makers use a different suite of approaches and often have different values and perspectives. More important, perhaps, is that they tend to lack a mutual understanding of each other's knowledge systems. While scientists

often complain that their voices have been ignored by policy makers, the latter have also expressed dissatisfaction that critical information required for decision making is often not readily available, accessible or presented in a usable form (Sarewitz and Pielke, 2007). Integration is often rather weak in practice across diverse purposes, including cross-disciplinary research and the producing of high-level, scientific outcomes, as well as

the defining of research work according to relevant policy-making objectives (or outcomes); in other words, research that leads to information capable of supporting different management decisions and planning process needs.

In practice, the IM projects reviewed could be considered as analytical processes by which guides were

produced to provide insightful information on locally or regionally pressing issues without direct linkages to policy objectives. Still, each project did set out to provide this information to decision-making authorities within their region of study. In fact, most of the analyzed projects considered it important to contribute to increasing awareness among regional managers, planners, political leaders, and media. They used the developed integrated models and scenarios to identify policies and their impacts that could improve local and regional resource management. In some IM projects, the developed models also provided additional flexibility in the way patterns and practices could be explored, since scenarios could be changed or recombined to better explore ways to achieve targeted policy aims (e.g., Nassauer et al., 2007). While the projects may not have specifically targeted policy outcomes, they did create policy-relevant outcomes in four areas (also see Table 1).

- Capacity building for policy makers mostly focused on helping them learn how to use the developed model, how to create and interpret future scenarios, and how to deal with uncertainties involved in the model.
- Assistance in local policy development mostly centred on providing inputs for land-use planning, local management plans, and zoning.
- Planning processes helped policy makers understand linkages between the environment and human decision making within the integrated model.

- General recommendations for policy making were made based on the developed scenarios and models. However, such comments tended to be presented from the research perspective; this is included in all reviewed IM projects.

In general, the involved policy makers welcomed initiatives that develop greater links between scientists and the policy process. In the reviewed IM projects, the additional approaches applied to make the project outputs accessible for policy makers centred largely on highlighting the main results of the overall study (in visual as well as

text-based ways); making general recommendations for policy makers; and presenting follow-up questions raised by the research of relevance to the decision makers. Because these projects lacked direct links to explicit policy objectives or authoritative agencies, we were unable to track direct policy or management changes influenced by the outcomes of the IM projects. Consequently, we have very limited information about any actual policy changes or direct local actions that were taken to address recommendations or findings from these studies. We suspect that many of the projects' impacts, includ-

ing those in the policy arena, occurred after the completion of the projects and often without the knowledge of team members, who were not actively engaged in actual planning processes.

Finally, promoting policy relevance in the IM projects is not only challenged by the different needs of the diverse group involved, but also by the difficulty in imposing rigid scientific norms on interdisciplinary teams. There is a need for these teams to establish their own standards of excellence that value integration and co-production of outcomes with stakeholders (Parker et al., 2002).

**Table 1**  
**Tools Applied in the ten IM Projects to Assess the Current System**

	PIA - Okanagan	GBFP	Corn Belt	Envland	CIT	INGRID	SENSOR	Isalaton	ATEAM	Pathways
<b>Supporting implementation of the outcomes</b>										
Capacity building	■	■		■			■	■	■	
Local policy development						■	■			■
Improving the planning process	■	■				■				■
Recommendations to policy makers*	■	■	■	■	■	■	■	■	■	■
<b>Monitoring and assessing progress</b>										
Regular data collection					■			■		
Recommendations for future policies and targets	■			■						■
Review of implemented actions					■					
Meetings with key stakeholders	■	■	■		■	■		■		■

**Note:** \* Recommendations to regional, provincial, and national policy makers.



## The Way Forward

Academics, decision makers, and society at large have an interest in the success of landscape-level IM projects, because such approaches maximize the use of available knowledge and research within a region, much of which is distributed across these various stakeholder communities. Moreover, those with “stakes” in a region, either due to their research interests, family, or employment responsibilities, or simply because that is where they live, have a vested interest in contributing to any process that can improve local socio-economic and environmental conditions by capturing the complex interactions and interdependencies between humans and nature. Integrated management approaches assist in increasing the understanding within local communities of such interactions, conflicting priorities, and the necessary trade-offs by enabling stakeholders to envision pathways and scenarios in a policy-relevant manner.

Integrated management approaches are not, in themselves, the solution to land planning and risk management. Their role as learning and communication tools, while important, will have limited influence on policy or planning unless they are formally linked to explicit needs among decision-making communities. However, planning for effective integration needs to be done at all stages of the IM process, from formulating the project proposal until execution and evaluation of the project, not just at the conclusion of a study or project.

So, where, exactly, should IM modeling and scenario approaches fit into decision-making processes? We believe there is no single answer to this question but that, in fact, IM approaches should be included as a tool in planning processes to advance and facilitate a better overall understanding of environmental and socio-economic complexities within a region, including what their impacts might be in the future or within the context of things that are likely to happen outside a region. Integrated management could simply be viewed as an adaptive management and planning tool that serves to engage decision makers and other knowledge and research communities in a systematic way within a region.

We also see a value in looking to integrate the different knowledge domains and priorities held within research, management, and policy communities, so available knowledge may be used to advance our ability to identify, understand, and mitigate unacceptable short- and long-term costs that arise when decisions are made without fully considering uncertainty and risk. Scientific methods focus on verifying hypotheses, whereas policy analysis generally involves assessing conditions that are impossible to verify. Yet, even in the sciences, the goal is not to be “true,” as there are no truths, but to give the best explanation among competing models or hypotheses (Morgan and Henrion, 1990). This, in effect, is the unifying construct between science and policy objectives – to understand those things that we do not, or cannot know.

Most of the IM projects we have reviewed to date were initiated and driven by researchers within governments or at academic institutions, which are motivated by disciplinary or sectoral priorities (such as publishing papers in the case of academics, or meeting sectorally based mandates, in the case of governments). Managing, or even understanding complexities beyond these traditional lines of inquiry requires brainstorming, insightful research and knowledge sharing, and new analytical approaches that are capable of managing large, complex, and scale-dependent (time and space) information. Integrated management approaches that combine spatial data sets, projective analytical tools, and opportunities for mixed stakeholders to express their views on short- and long-term sustainability objectives represent a practical learning and communication tool to accomplish exactly this. By strengthening the science basis of models supporting IM approaches, they would also be able to provide quantitative assessments of specific long-term policy and management options.

To pass beyond the state of useful capacity and learning tools, IM projects will need to find ways to engage directly with, and therefore, support, the needs of mandated regional authorities. Several examples in various stages of development across Canada could be examined to:

- Explore how IM approaches can increase or support regional capacity to manage local and regional issues, such as cumulative effects as an

outcome of a number of uncoordinated human actions, risk, and regionally based environmental assessment. As well, look at how IM approaches streamline and increase the transparency of regional assessment, planning, and regulatory processes by creating a systematic and common platform for structured dialogue, knowledge exchange and sharing, and evaluation, using future scenarios and collaborative, interdisciplinary, and multi-stakeholder processes.

- Assess the value of IM projects in medium- and long-term planning and environmental assessment, by using them to explore potential development and management pathways, and contribute to trade-off analysis.
- Examine how IM has contributed to policy and monitoring directions, and policy choices, including the use of past and current trend data, as well as policy and cumulative impacts on both societal, economic, and biophysical elements.

- Identify opportunities for sharing lessons learned and experiences among policy makers, researchers, and other stakeholders who have been actively involved in IM projects. ●

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Although it is highly urgent and essential, intervention in sustainable development often appears to be a Sisyphean task, given the numerous obstacles, such as the rejection of scientific evidence and the fear of short-term economic impacts. There is also a need to get businesses, pressure groups, the public and various tiers of government to work together. Awareness of the gravity of the situation is proportional to stakeholders' willingness to get involved.<sup>2</sup>

Already, the definition of sustainable development includes ambitions that go beyond simply combating climate change, as this mission alone runs into a multitude of coordination problems

between the tiers of government in a single country, as is the case in Canada (Harrison, 1996: 10).

The question is posed with great acuity in the case of interventions that focus on one section of the territory: the citizens who live in or use the territory, groups pursuing a variety of aims, businesses operating there, and all of the tiers of government (from one to five) that are interested due to their national policies or territorial responsibility. It may be a matter of controlling use of land for storing waste, sites for encouraging wind power or hydro power production, flow of water in the rivers or integrity of the water, jeopardized by agricultural activities or tourism. How then, through the multiplicity of interested parties, can we preserve the rivers, wildlife and flora, air quality, soil use? How can we organize economic and social activity when many decision makers have the means to facilitate or hinder initiatives?

Air, soil and water are essential to humanity's survival yet are fundamentally indifferent to whoever makes—or fails to make—timely decisions: ultimately, they only respond to the laws of physics and chemistry. Yet people act based on laws governing power relationships in a territory, which are sometimes chaotic, conflictual and counter-productive. To organize the most optimal response to the challenges of sustainable development, we need to better organize the integration of human inter-

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# Utopia within Reach: Horizontal Collaboration on Place-Based Projects from a Sustainable Development Perspective

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1 The author would like to thank Stefanie Bowles and Bernard Cantin of the Policy Research Initiative (PRI) for their ideas and advice, as well as for their support while the study was being produced.

2 This paper summarizes the results of a study commissioned by the PRI available at: <[www.pri-prp.gc.ca](http://www.pri-prp.gc.ca)>

vention; a horizontal management approach has already enabled some progress in terms of such optimization.

This article sets out the specifics for mechanisms for working together from an optic of implementing place-based integrated management approaches. It investigates the highly important challenges such collaboration must take on with respect to place-specific projects in comparison with collaboration in other contexts. It inventories existing mechanisms that are particularly appropriate to a place-based approach. To do so, it describes the actors and issues and sets out horizontal territorial initiatives. What many might characterize as utopian has already been achieved in a number of places around the world, where actors have deemed the issue to be important enough to justify sufficient investment in collaboration. Here, Thomas Moore's *Utopia* corresponds to the intimation of a situation that is both perfect and unattainable.

## Elements to Consider

This section deals with the dimensions of place, sustainable development and horizontal management.

### Place

By definition, any place-based project refers to a space that is simultaneously governed by a municipality, region, province, central government and sometimes even a binational or multinational treaty, or else an agreement among the peoples who share a single space, as is the case with the non-aboriginal and aboriginal peoples in Canada.

Collaboration on place policy or projects that deal with a specific place involves very specific challenges. For local populations and governments, such projects are more mobilizing than major national or international policies, as the impacts of such projects seem more immediate.

Place-based issues attest to governments' legal capacity to act. Concretely, they embody the physical identification of the tiers of government. No one wishes to waive their constitutional responsibilities and the associated jurisdictional sovereignty. In a federal system like Canada's, everyone claims to justify their relevance through the quality of their involvement. Place-based interventions are an opportunity to justify some relevance as a government body in the eyes of the public. As Harrison wrote (1996: 4-14), a number of other factors stimulate—positively or negatively—a given government's inclination to take action, such as constitutional jurisdiction, awareness of the issue's importance, the financial costs to be borne, sense of the ability to succeed, openness to potential conflict, perception of what the public wants, proximity of elections, etc.

Place-based projects involve particular issues because they have a direct effect on the lives of those who live in the territory or use it for recreation. These living spaces affect people's daily lives. They have a strong potential to mobilize, therefore. Moreover, places also offer potential for people to identify

with them: we're from this region or that sub-region. Developing or protecting a given watershed means addressing the various places the resident identify with. These issues exacerbate local populations' political sensitivities.

Moreover, some factors negatively impact mobilization when it comes to place-based projects: the size of the territory, occupancy and the indirect nature of the expected impacts. There is more mobilization for a small, inhabited valley

than there is for a remote and less known space.

## Sustainable Development

As knowledge expands, it becomes clear that environmental issues involve a multitude of phenomena that affect the living practices of people in society. Interactions between these practices impact the quality of the environment. The population awoke to environmental issues due to remedial actions: damage had been done and it was necessary to attempt to return a site to its original state. Over time, the notion that it was important to take preventive action to avoid damaging environments gained currency.

This is what happened with the fight against climate change that is keeping environments from deteriorating. The factors that affect climate change are being targeted, and educational and enforcement measures are being taken to decrease CO<sub>2</sub> emissions, for example.

**To organize the most optimal response to the challenges of sustainable development, we need to better organize the integration of human intervention.**



It then emerged that the preventive approach had to involve all human activity, as all actions have a direct or indirect impact. The notion of *sustainable development* emerged as a more holistic approach to fostering environmental protection: it is no longer a matter of simply directly protecting a site; now, for example, we must avoid pointless consumption to prevent pointless production that pointlessly consumes resources and puts excess pressure on environments. The more an approach refers to sustainable development, the more it involves all human action and thus calls on more actors from more tiers of government and demands more from all individuals.

Place-based projects deal with both the dimensions of remediating and preventing damage. They only partially address sustainable development.

### Horizontal Management

Fifty years ago, it was taken for granted that every government body had its responsibilities and handled them as well as it could. As scientific knowledge evolved, we understood that the phenomena of human activity in one sector affected another. We also realized that physical, economic and social phenomena have a range of types of causes and involve various kinds of impacts. Governments strove to enrich how these files were handled by developing mechanisms for coordinating within tiers of government, consulting with groups and the public, and allowing the different tiers of government to work together.

These mechanisms includes:

- Interdepartmental negotiation
- Inter-government negotiation
- Coordination by hierarchy (authorization)
- Coordination by money (subsidies)
- Coordination by authority (aggregation)

The limitations of such mechanisms quickly emerge when they are used. It became important to find out how to foster a more “committed” and intense collaboration. The intensity of the actors’ collaboration had to be increased. Better integration of actions that stemmed from diverse hierarchies was sought.

The will to integrate manifests through various dimensions of horizontal management, from complete operational integration to collaborative governance, to active and more or less formal partnerships (Bourgault, 2002). Horizontal management fosters more adequate, economical, efficient and fast responses to problems that call for cooperation among a range of stakeholders. In doing so, it increases the legitimacy of government action. Horizontal management also has its drawbacks: among others, it takes time, a new culture of cooperation, and makes vertical accountability harder to establish.

### The Actors

Place-based development projects and ecological issues put a wide variety of actors and interests into play. These actors have very diverse attitudes and behaviours.

Government actors tend to fight to assert their jurisdictional capacity (exclusivity), expertise and usefulness to citizens. Occasionally they collide on these terrains and projects are underdeveloped if they go forward! (Ross and Dovers, 2008: 255).

Non-profit organizations (NPOs) form around local or regional “causes”, to protect watersheds, rivers and natural environments. Such organizations are also present nationally for broader causes, and occasionally have a voice in a more local situation. Groups do not always push in the same direction: their interests do not always overlap perfectly, or they may have diverging strategies depending on whether the organization is local or national.

Citizens may feel directly implicated by place-based projects, or by the need to develop them to remedy a situation. Citizens do not always form a single, united and predictable block: factions collide over economic, political and social issues or over old quarrels.

### The Challenges of Place-Based Projects

Place-based projects can generate conflicts in perspectives: nationally, something may be desired due to a national policy or internal politics (avoid creating a precedent, expressing the power relationships in a department or between two departments), whereas at the local level another solution may be desired which better matches peoples’ interests or the existing power relationships.

There is abundant documentation of inter-government conflicts in place-based projects: the policies of one tier of

government conflict with another tier's (natural resources, agriculture, land use, transportation, environment, etc.). One tier may want to demonstrate that it has more expertise, is more legitimate, more useful, more attuned to the public, etc. (Heller, 2001: 132-133-136).

Perspectival conflicts also occur in the context of local conflicts of which they are a recent episode: the project may feed conflicts between a region's entrepreneurs or may fan local political squabbles, etc.

### Horizontal Initiatives

Methods of horizontal management, also called transversal management, materialize with needs and do not follow a single model. A single project may be an opportunity to generate a number of horizontal arrangements simultaneously. For example, a project may draw governments and groups from civil society as well as the public into a single horizontal management arrangement. In this case, citizens' groups may have reason to organize how they are participating in a project. It is also likely that each tier of government will coordinate its own approach and that arrangement between two or more organizations will arise. First, let us look at the array of cooperation mechanisms.

### Reviews of the Literature Show that a Number of Horizontal Arrangements are Possible

**Operational integration** means secondment and pooling of financial and human resources around certain specific operational aims for a specific

period. For example, Ottawa's Integrated Threat Assessment Agency unites 13 government agencies and departments (including two from the provincial level) to produce assessments on an ongoing basis (Bourgault et al., 2008).

**Corporate management** unites the corporate plan, perspective, resources and coordination around a joint plan. Led from the top, it breaks down into agendas and includes bolstering and educational actions to have authority give way to a shared culture. This practice is appropriate to initiatives within a single tier of government (Bourgault, 2007).

A variant of the corporate management approach, the **Joined Up Government** (JUG) approach takes the form of directives from Cabinet (and mandate letters from the Prime Minister) to build a shared perspective and foster joint work (6, P, 2004; Ling, 2002: 623).

**Integrated policy development** is related to corporate management, but on a smaller scale: it only affects two or three sectors. It is also different in that pooling is neither imposed nor coordinated from the top, but comes from the participating organizations. Here, as it is primarily consensual, it is more fragile (Aoki, 1986; Ross et Dovers, 2008).

**Action-centred forums** make it possible to seek collaboration beyond the initiating government or community. This approach strives to produce and share information in order to influence public decision makers and get them to engage in a perspective and project (Lahey et al., 2002: 21).

**Bridging** takes the form of ad hoc agreements among tiers of government or citizen groups based on an existing project or an initiative that is already underway, in order to increase the initiative's impact while meeting the goals of the government body that is associated with it. This synergy makes it possible to keep parallel, competing and potentially antagonistic initiatives from developing, along with the efficiency losses that arise in such situations (6, 2004: 131).

**The open method of coordination** strives to have organizational actors adopt common goals and urge them to achieve these goals through influence and public dissemination of the results. It does not necessarily involve organizational cooperation <[http://europa.eu/scadplus/glossary/open\\_method\\_coordination\\_en.htm](http://europa.eu/scadplus/glossary/open_method_coordination_en.htm)>.

**Collaborative governance** involves consultation of citizens, local groups and local political bodies, to the point of jointly creating projects and monitoring their execution (Hirst, 2000: 146-148).

For place-based projects, it seems that a number of approaches can be combined: for example, collaborative governance to involve groups and citizens, bridging to tie the project into local initiatives, corporate management to properly coordinate each tier's action, operational integration to foster maximum effectiveness and efficiency in running projects (Ansell et al., 2008: 543-571).



## Some Geographically Defined Achievements

A number of horizontal initiatives have done well when they bear the stamp of geography, such as the St. Lawrence Action Plan, the Québec maritime project, the model forest initiative in Gaspésie, the Saguenay-St. Lawrence Marine Park, the Federal Action Strategy for Greater Montreal, regional civil servant development centres and other support services that are pooled locally, the Estrie council of federal bodies, etc. Of these projects, some are exclusively federal at the local level, while others involve a number of tiers of the federal government and still others involve other governments, business and the public (Bourgault et al., 2002).

A number of these projects involved an openly independentist provincial government. Clearly, the utopian vision of collaboration is within reach when promoters believe it is necessary enough.

## Environmental Achievements at the Territory Level: From the National Level to Integrated Landscape Management (territorial integration)

A very partial review of the literature documents a large number of highly varied initiatives in this area. The examples below are simply to illustrate some of the successes. The literature reviewed does not provide a strict definition of the notion of success. However, our understanding of the texts has led us to consider “success” as the fulfilment of two conditions: an adequate achievement of ecological goals, through the contribution of a horizontal governance mechanism that functioned reasonably

well, according to the stakeholders. Here, a relativistic judgement of these situations is opportune: not all projects predefine their goals in a quantified way; aspects of new goals emerge during projects. Projects that meet 100% of all of their objectives are scarce; moreover, an infinite number of actors cannot be fully satisfied (Koontz and Thomas, 2006: 111-121). An exhaustive list of these “successes” would be impossible to put together.

Sweden’s long tradition of environmental cooperation allowed the Persson government (1996) to announce an *environmentally sustainable society*. How? By focusing on responsible growth and management of resources, and combining ecology, the economy and employment. Following the “welfare state”, it proposed the “green welfare state” (cf. in particular *Delegation for Ecologically Sustainable Development, made up of the ministers of the environment, agriculture, taxation, elementary education, and the junior labour minister; the Sustainability Investment Program which includes the Local Investment Programs run by the Ministry Unit for Ecological Transformation and Development*) (Lundqvist, 2001: 319-337).

In the Netherlands, the management model (Rotmans-Kemp model) strives to incorporate sustainable development into the government’s policies. The challenge is to show how the transition toward SD can be handled. Participation by actors from civil society and the private sector is considered very important. The goal is to privilege systemic innovations as the approach to developing public policy (Kemp et al., 2005: 12-30).

*Integrated Landscape Management Projects* generally refer to businesses that develop, protect and manage ecosystems. They focus on defined geographic zones (watersheds, etc.) within a given jurisdiction (Bizikova, 2009). A number of North American examples of such integrated territorial initiatives have been recorded: they involve US states, Canadian provinces or groups of both. This was the case in August 2001 with the Climate Change Action Plan (Bramley, 2002: 16-24). The World Commission on Dams (WCD) is another example of resolving conflict and drafting global public policy in the framework of a partnership process, in which parity and respect for organizational identities are critical to success (Brinkerhoof, 2000: 324-336).

Watershed organizations are an eloquent example of success in the area of reconciling the environment, the economy and society: cases have been documented in Brazil, Australia, Europe, Africa, the United States and Canada, in short on almost every continent, and with every type of political regime and societal tradition.

In Brazil, the government instituted a participatory watershed management system and created a user commission, a watershed management committee that fosters collaboration with the government and representatives from civil society (ability of the network and actors to disseminate the debate when perspectives diverge). Power related to water management shifts from the federal and state level to the level of local organizations and watersheds (Lemos et al., 2004: 2121-37).

In British Columbia, *Participatory Integrated Assessment of Water Management and Climate Change in the Okanagan Basin* (PIA) is based on collaboration and an interdisciplinary effort that unites universities, government agencies and local partners (Brizikova 2009).

To meet the water needs of the public, industry and other sectors, Washington State's Department of Ecology instituted an integrated management approach for the Yakima watershed (State of Washington, 2008).

Québec's National Water Policy created 33 watershed organizations on priority rivers. Subsidies help them with their efforts to collaborate on specific local objectives. The federation also receives support. An inter-departmental work group on the National Water Policy, coordinated by the « Ministère du Développement durable, de l'Environnement et des Parcs » (MDDEP) brings together 12 departments and agencies (Government of Québec, 2007).

For the Canadian government, many institutions are based on a strong combination of horizontal environmental policy integration and vertical environmental policy integration (HEPI and VEPI). Among its horizontal type measures, among others, Canada created the position of Commissioner of the Environment and Sustainable Development (CESD/CEDD) and the National Round Table on the Environment and the Economy (NRTEE/TRNEE), which also involves civil society and is deemed one of the coun-

try's most important horizontal measures (Cohen, 2007: 18-19). Various departments have formal arrangements for collaborating with communities, the provinces and each other (see, for example, the Bakvis and Juillet report released in 2004). Multi-department initiatives have been around for a long time, such as the St. Lawrence Action Plan (see Bourgault, 2002, the chapter by Gilles Corriveau, pp. 79-100).

The same goes for various councils governing conservation of sites and protected areas, etc. Also note the case of **Australia**, which adopted a regional approach to natural resource management (NRM) by changing how programs were managed and financed ("Natural Heritage Trust," "National Landcare Program" and "National Action Plan for Salinity and Water Quality") (Paton et al, 2004: 259-267; Dover, 2001).

### **Conclusion: Utopia?**

A number of eloquent examples attest to successful collaboration for achieving priority environmental objectives. When the primary participants have

decided to make sustainable development a sufficiently important priority, collaboration among the actors will get the required tools. A number of them have already been tested in the field.

Collaboration in places features some especially tough challenges. Developing and managing place-based projects may seem difficult, as they are generally close to citizens' real lives and easily become subject to various types of controversy. However, the literature is packed with examples of success in these areas.

Developing and managing place-based projects also features advantages that are uniquely concrete and mobilizing: most of the actors live near the sites being considered and are looking for satisfactory solutions, so they are not indifferent to the pace of the work or its results.

These projects need time to reach maturity before their fate can be decided: it is completely normal for a project to see adjustment difficulties at the outset.

The question of cooperation among human beings always arises in every type of organization and field: the

**For place-based projects, it seems that a number of approaches can be combined: for example, collaborative governance to involve groups and citizens, bridging to tie the project into local initiatives, corporate management to properly coordinate each tier's action, operational integration to foster maximum effectiveness and efficiency in running projects.**



difficulties in cooperation are not always resolved. Success comes when all of the potential collaborators are convinced of the issue's importance.

Today, new knowledge about the environment, the dramatic nature of sustainable development issues, mobility of investment and speed at which information circulates are placing the problem of territorial development on a new scale: action must be more anticipatory and concerted, taken from the perspective of broad interest and the scope of the challenge must put it beyond short-term interests. Human beings have already achieved this. We have achieved many "utopias" ... when we put enough into it. ●

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## Introduction<sup>1</sup>

**T**he challenge of integrating economic, environmental, and social considerations at all levels of decision making lies at the heart of developing practical approaches to advance the federal agenda for sustainable development. It is the subject of a large and diverse literature including frameworks, measures, and tools for undertaking integrated, sustainability-focused analyses across a broad range of issues from global risks to the impact of specific proposals. Much still remains to be done to refine and apply these approaches as an integral part of Canadian public policy development. Within the federal government, many arrangements and means for taking an integrated approach are in place, but

ization (Meadowcraft and Bregha, 2009). These fundamentals are resistant to reform and likely to persist for the near and medium term.<sup>2</sup>

In the interim, further progress can be made by mobilizing, sharpening, or making better use of existing or readily available frameworks, concepts, and tools as vectors for incremental and instrumental change, carrying more strategic, integrative approaches into the mainstream of federal policy making. Existing policy instruments that have a mandate for integration and support the delivery of sustainable development include environmental assessment, land use and resource planning, and departmental sustainable development strategies. For example, the Policy Research Initiative (PRI) has identified integrated land and water management as a “new paradigm” for optimizing economic, social, and environmental outcomes at a regional or landscape level, and is exploring how the federal government can use its tools and processes in policy development. Recently, the PRI, in collaboration with several federal agencies, organized a workshop on concepts and elements of spatial approaches to integrated management (SAIM) and their potential application within the federal government

This paper briefly describes certain aspects and examples of international experience with SAIM as part of a

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# Spatial Approaches to Integrated Management for Sustainable Development

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remain unused or underused, at odds with a traditional culture of policy making and structure of governance based on sector and functional special-

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1 An initial version of this paper was prepared as a background information note for the PRI Workshop, Ottawa, March 31, 2009.

2 To declare my colours, the premise and perspective advanced here is that of someone who is outside the federal government, but has some experience of its operations via secondment and consultancy. On this admittedly limited basis, I conclude that the degree of change necessary to come to grips with pressing sustainability issues and considerations is remote for institutional as much as political constraints in Canada, irrespective of the political stripe of the governing party. In that regard, of course, the Government of Canada is hardly alone.



## Box 1

### Concepts and Terms

**Sustainable development** is a process of positive socio-economic and biophysical change or wealth (capital) creation that meets the needs of all people and can be continued indefinitely without undermining the natural systems on which it depends or foreclosing the range of opportunities available to future generations. This process is one of continuous adaptation to evolving economic, environmental, and social realities. In policy-making terms, it involves planning or muddling toward a path to course transition in the state of systems that are always in flux.

**Sustainability** is a quality or condition of a course or process of development that can be continued indefinitely along the lines described above. It can only be analyzed subjectively against some set of normative values or accepted framework of principles or criteria of sustainable development.

**Sustainability appraisal** is the process or act of evaluating the effect of a development trend, proposal, or activity against the type of framework described above. As a policy test, it can be undertaken *ex post* or *ex ante* and all such determinations will be highly approximate, for example, framed as progress toward (or away) from specified aims or criteria.

**Integrated approaches** are widely considered to be indispensable when undertaking any process of sustainability appraisal. They encompass substantive and procedural characteristics, that is, an integrated analysis of the economic, environmental, and social effects and sustainability implications of actions and options and the co-ordination of procedures, methods, and tools for synthesizing information in support of decision making.

**Spatial approaches** are a distinctive group of planning tools and processes for land and water management of a defined geographic area or region. They are particularly useful to give effect to place-based sustainability appraisal at the landscape level and within an ecosystem framework that brings together multiple uses and divided responsibilities for their spatial and environmental integration with the potentials and constraints of the resource base.

larger convergence of trends and developments toward more integrated, sustainability-focused strategic planning and policy appraisal.<sup>3</sup> There are three key objectives.

- Consider the role and scope of SAIM within a broader classification of strategic approaches to assess and evaluate the sustainability of development proposals and actions.

- Identify a number of SAIM-type processes, undertaken in Canada and internationally, where experience has been promising and may have wider application.
- Explore the opportunities and challenges for moving forward with the SAIM process design and development with some concluding observations (undoubtedly naive) on the prospects for their federal uptake.

## Background Perspectives

The concept and principles of sustainable development are now firmly embedded in international law and policy, and widely referenced in Canadian statutes and strategies. Yet their practical implementation continues to present major challenges, including how to assess and evaluate the impact of development trends, actions, and options from a sustainability perspective – or sustainability appraisal for short. As used here, sustainability appraisal is a generic process that can be undertaken formally or informally under policy, planning, regulatory, or assessment frameworks. Ideally, a plural, “whole of government” approach is needed to inform all the choices and actions federal agencies take that might affect the delivery of sustainable development. From that perspective, the potential of SAIM is discussed in terms of its potential as an *ex ante* instrument for sustainability appraisal.

## On Terms and Concepts

Although the terms “sustainable development” and “sustainability” are commonplace in policy discourse, there is

3 This material, *inter alia*, draws on work undertaken jointly with Barry Dalal-Clayton at the International Institute for Environment and Development. Other sources include Czech Republic (2005) and Sadler (2009).

remarkably little agreement on what they mean in terms of day to day decision making. For present purposes, these and other key terms and concepts are defined in Box 1. In brief, sustainable development refers to a direction and process of ongoing change, and sustainability refers to a condition or state of change at a particular time or place. Sustainability appraisal is any process of estimating progress toward or away from a reference benchmark that has two essential components: an integrated analysis of the economic, environmental, and social effects of development proposals or actions; and an evaluation of their significance against stated policy aims or criteria for sustainable development. In this context, an integrated approach will have the following dimensions: substantive integration of the different types of impact; procedural integration of analytical and consultative measures at key stages of the process; and policy integration of findings in decision making and implementation. Spatial or place-based approaches comprise a distinctive body of analytical and planning tools for integrated, sustainable land and resource management of a defined geographic area or ecosystem.

## Frame of Reference

Sustainability appraisal covers a broad tent of thinking and practice, and draws from a menu of concepts, methods, and diagnostic tools to address development effects, issues, and linkages that are complex, multi-scale, lie at the interface of socio-economic and biophysical systems, and connect local,

**Table 1**  
**Spatial Dimensions of Types of Approach to Sustainability Appraisal**

Paradigm/Stage	Relative Level of Use and Examples of SAIM Tools
Impact assessment of specific proposals	<ul style="list-style-type: none"> <li>Moderate; SEA, cumulative effects assessment</li> </ul>
Strategic planning/land- and resource-based applications	<ul style="list-style-type: none"> <li>High; regional and local area plans, integrated watershed, coastal zone or oceans management strategies, some aspects of national sustainability strategies</li> </ul>
Accounting systems	<ul style="list-style-type: none"> <li>Low-moderate; certain systems and tools have spatial dimensions, e.g., well-being assessment and ecological footprint analysis</li> </ul>

short-term decisions with global, long-term consequences. Broadly stated, a large range of integrated approaches and processes are used, or are potentially available, for this purpose, including SAIM tools. In abbreviated form, three main types of approach to sustainability appraisal can be identified, corresponding to the micro, meso, and macro levels of policy making. These consist of:

- impact assessment and related forms of appraisal that address effects and consequences of specific development options and proposed actions;
- strategic planning and integrated management that set directions and allocate resources within a given sector or spatial framework; and
- accounting systems that evaluate progress toward or away from sustainability at the level of society, countries, or sectors of activity.

As indicated in Table 1, SAIM-type frameworks and tools are applicable at each level. They find their most visible expression as large-scale land use planning and resource management processes that provide a means of spatial and environmental integration of competing options and activities and facilitate cross-sector reconciliation and adjustment of different interests through stakeholder engagement and interaction. In this context, PRI (2004, 2005a) has called attention to the potential of geographic information system (GIS)-based analytical models that have a number of integrative applications, such as identifying the interactions and cumulative effects of land use and resource development alternatives, evaluating their economic, environmental, and social trade-offs, and exploring different policy and management outcomes. This methodology (termed integrated landscape manage-



ment modelling or ILMM) is also promoted as a means to establish a more consistent, rigorous, and scientifically defensible process of strategic environmental assessment (SEA) of proposed policies, plans, and programs. It is also applicable to assessments of large-scale projects that are likely to have significant cumulative effects. Despite its acknowledged potential in these areas, ILMM is not yet widely used in Canada which reportedly lacks capacity to undertake this approach (PRI, 2005b).

### Challenges to SAIM

Integrated landscape management modelling and other SAIM in Canada are still evolving as planning tools for sustainable development. Their role as a process of sustainability appraisal as delineated above is open to speculation but, *prima facie*, SAIM are broadly correspondent, particularly as a means of analyzing large-scale interactions and interdependencies among economic, environmental, and social aims and considerations. More arguable is the extent to which integrative analysis is undertaken within or against a sustainability framework, that is, to test the significance of identified effects. In principle, despite gaps and inadequacies, federal policies related to sustainable development should provide a “sufficient enough” framework against which a sustainability appraisal could be undertaken along the lines described. In practice, a robust approach will depend on the existence of a number of enabling conditions being in place including clear priority setting, implementation of the commitments made

in departmental sustainable development strategies, and mechanisms for their government-wide co-ordination.

Despite some progress on these matters, the Parliamentary Commissioner for Environment and Sustainable Development (CESD 2005, 2008) has identified significant weaknesses that have persisted for more than a decade. In 2005, the Commissioner noted, *inter alia*, that the quality of the third round of departmental strategies varied widely; implementation of commitments was unsatisfactory; and overall direction on priorities and co-ordination of strategies was lacking (CESD, 2005). These problems also continued, largely unaddressed in the latest departmental strategies or in the generalized guidance on their preparation. As a result, most strategies are not substantive plans for sustainable development nor do they reflect rigorous assessment of the impact of departmental policies and programs on sustainable development (CESD, 2008). In short, the patchwork of federal sustainable development strategies provides a less than coherent or consistent policy framework for integrated analysis and decision making.

The policy and institutional challenge of integration is also intergovernmental (and trans-border) with respect to spatially explicit approaches, which typically cut across policy mandates and jurisdictional boundaries, and involve a large and diverse cast of stakeholders. As a federal state, Canada has a complex regime of divided powers and overlapping responsibilities for land and resource management. Despite provin-

cial title to crown lands within their boundaries, the federal interest and reach in this area is considerable. It is exercised directly in the case of authority over offshore waters, national parks, or northern areas, co-operatively under formal or *ad hoc* inter-jurisdictional and trans-boundary arrangements, and indirectly through legal and policy provisions related to agriculture, environment, fisheries, First Nations, transport, and water matters. From a governance perspective, integrated land and water management becomes progressively more complex (though no less necessary) when moving from direct to indirect control, from the politics of intragovernmental to intergovernmental co-operation.

From a methodological perspective, the challenge is how to undertake a sustainability appraisal as part of SAIM; which procedural and analytical tools will work in this planning context? Broadly stated, there are three main entry points.

- Use an institutionalized procedure, such as SEA, grafting economic and social analysis onto this assessment mainframe as in the UK regime.
- Conduct parallel streams of assessment, linking findings at key stages following rules for integration as in the Australian process.
- Apply an integrative methodology such as multi-criteria analysis or a landscape cumulative effects simulator (ALCES), as in the Alberta system.

The above modular approaches overlap; they are not mutually exclusive and could be variously combined, perhaps

in a phased manner moving along the continuum from partial to full integration. Depending on the spatial and policy context, the capacity for sustainability analysis may be built incrementally, relying on tested procedures or tools that are commonly used to assess economic, environmental, and social impacts, or experimentally, using new, integrative and interdisciplinary methodologies, such as ILMM. As an initial platform, there is considerable experience already with integrating social and, to a lesser extent, economic analyses into SEA and environmental impact assessment (EIA) using a suite of analytical and participatory methods. This more integrated form of assessment can either incorporate or feed into modelling applications.

A tool kit is needed for this purpose. No individual procedure or method, however versatile, will be sufficient to encompass the multi-dimensional scope of sustainability appraisal. In that regard particular attention needs to be given to critical thresholds and criteria for evaluating the significance of the impact of planning options. Table 2 lists examples of the types of tools from simple, rapid assessment techniques to computer-based methodologies that can be used at each generic stage of a SAIM process to impart sustainability assurance to planning and decision making. New packages and web books of tools and methods are coming on stream all the time, particularly in the European Union, which has commissioned several projects to advance the science and methodology for integrated

**Table 2**  
**Matching Tools to Tasks in Integrated Sustainability Assessment**

Key Activities	Examples of Tools that are or Can be Used
Clarify need, scope and context of analysis	<ul style="list-style-type: none"> <li>• Policy scanning and mapping</li> <li>• Vulnerability mapping</li> <li>• Baseline and trend analysis</li> <li>• Stakeholder identification and engagement</li> </ul>
Determine issues and impacts	<ul style="list-style-type: none"> <li>• EIA/SEA</li> <li>• Social impact assessment (SIA) and health impact assessment (HIA)</li> <li>• Economic analysis</li> <li>• Participatory methods</li> </ul>
Development and comparison of alternatives	<ul style="list-style-type: none"> <li>• Multi-criteria analysis</li> <li>• Cost benefit analysis</li> <li>• Comparative risk assessment</li> <li>• Modelling and scenarios</li> </ul>
Evaluation of significance and identification of best practicable sustainability option	<ul style="list-style-type: none"> <li>• Mitigation and adaptation</li> <li>• Threshold tests</li> <li>• Trade-off matrices</li> <li>• Policy compatibility analysis</li> </ul>
Monitoring effects and evaluating outcomes	<ul style="list-style-type: none"> <li>• Issues tracking</li> <li>• Trend monitoring</li> <li>• Value for money and results auditing</li> <li>• Policy evaluation</li> </ul>

Source: Adapted and modified from Bonvoisin et al. (2006).

sustainability analysis (van Herwijnen and de Ridder, 2007; Weaver et al., 2007).

### **Profile of Canadian and International Experience with SAIM**

As outlined above, the policy, governance, and methodological challenges to the application of SAIM for sustainable development are considerable but by no means insurmountable. Canadian and international experience has

much to offer in that regard. Particularly instructive are examples of the use of an integrated approach to tackle complex land use and resource conflicts or address cumulative effects or systematically apply sustainability appraisal as an integral part of plan making and approval. In this section, four such applications are profiled; they highlight possibilities and lessons that may be of wider interest to SAIM practitioners.



## Box 1

### Regional Forest Agreement (RFA) Process, Central Highlands, Victoria, Australia

Regional forest agreements cover most of the major production areas of native forest in Australia. They are based on CAR (comprehensiveness, adequacy, and representativeness) criteria for core forest reserves that were the product of much bargaining. As finally agreed, the criteria were applied to set aside a reserve system in RFA areas as follows: 15 percent of the pre-1750 distribution of each forest type; 60 percent of the existing old-growth forest, more if rare or depleted; 90 percent or more of high-quality wilderness forests; and all remaining areas of rare and endangered forest ecosystems.

With some individual variation as to detail, a similar RFA process was followed in each area comprising scoping, assessment, integration, and agreement. The RFA process can be illustrated for the Victorian Central Highlands region, an area of some 1.1 million hectares (56 percent of which is public land). A Comprehensive Regional Assessment (CRA) was conducted of environmental, cultural, economic, and social issues in the region. It included assessments relating to biodiversity, old-growth forest, wilderness, national estate, world heritage, and Ecologically Sustainable Forest Management (ESFM). The CRA report (released for public consultation in July 1997) may be compared in scope and scale to an impact statement in a conventional EIA process and was supported by a range of technical reports.

Under the Agreement, the conservation reserve system for the region has increased by 116,000 ha (64 percent) and nearly half the public land in the region is now in national parks or other reserves. The CAR reserve system meets the nationally agreed criteria for biodiversity, old growth, and wilderness. Benefits for industry include greater resource security in terms of certainty of access to forest resources and financial incentive for industry development. Social benefits include prospects for job creation in the order of 300 jobs.

Source: Ashe (2002).

### Australian: Experience with Particular Reference to the Regional Forest Agreement Process

In the last decade, many legal and policy developments in Australia have been relevant to SAIM for sustainable devel-

opment. For example, the *Environment Protection and Biodiversity Conservation Act 1999* (at section 3A) specifies principles of ecologically sustainable development (ESD) that must be taken into account when deciding whether to approve a development initiative (sec-

tion 136) and undertaking a mandatory strategic assessment of fisheries managed by the Commonwealth (federal) government or exported (section 146). The draft assessment report is part of the information used in preparing a statutory fisheries management plan, which, inter alia, must certify that a fishery is ecologically sustainable. Similar requirements on fisheries assessment and management in Canada are urgently needed.

Intergovernmental (commonwealth-state/territory) machinery for resolving long-standing jurisdictional disputes and policy conflicts over land and resource management uses and values may have greater resonance for Canadians. The regional forest agreement (RFA) process represented perhaps the most extensive, large scale resource assessment and planning exercise yet undertaken in Australia. It had its policy basis in the National Forest Policy Statement (NFPS), a co-operative framework that sets out policies and objectives for Australia's public and private forests, means for their integration, particularly to resolve competing conservation and development uses and values, and respective roles and responsibilities of the commonwealth and state governments.

Key principles and elements of approach to apply this policy statement for large-scale, native forest areas included:

- creation of a forest reserve system based on principles of comprehensiveness, adequacy, and representativeness;

- protection of old growth forests and wilderness areas as part of the reserve system;
- commitment to ecologically sustainable forest management (ESFM) in wood production areas;
- comprehensive regional assessment (CRA) of the economic, environmental, and economic issues and impacts of forest plans; and
- preparation of long-term (20-year) plans for heritage conservation and sustainable development of large native forest areas that were the focus of deep-rooted conflicts (see example in Box 1).

### Integrated Management for Large Oceans Management Areas

In Canada, functionally comparable to the Australian example, is the process of integrated management of large ocean areas being developed by the federal Department of Fisheries and Oceans (DFO). Although much still remains to be done, the groundwork has been laid for an ecosystems approach to oceans management, based on a hierarchical, spatial framework for planning and decision making (Figure 1). This framework incorporates a risk-based procedure to assess the comparative severity of ecological threats. It may be thought of as the infrastructure for ecosystem-based management (EBM), which aims to ensure that the structure (e.g., biological diversity), function (e.g., productivity), and overall environmental quality (e.g., water and habitat

**Figure 1**  
**DFO Process for Integrated Management of Large Ocean Areas**



Note: Shaded components represent the ecosystem approach.

Source: DFO (2005) Ecosystem-Based Management in Canada's Marine Environment, DFO/2005-951. Figure derived from slide presentation of Siron R (2006) Ecosystem-Based Integrated Management and Planning in the Marine Environment: Potential Relationships with the Environmental Assessment Process, National Environmental Assessment Practitioners' Workshop, Whistler (BC), October 24-27, 2006.

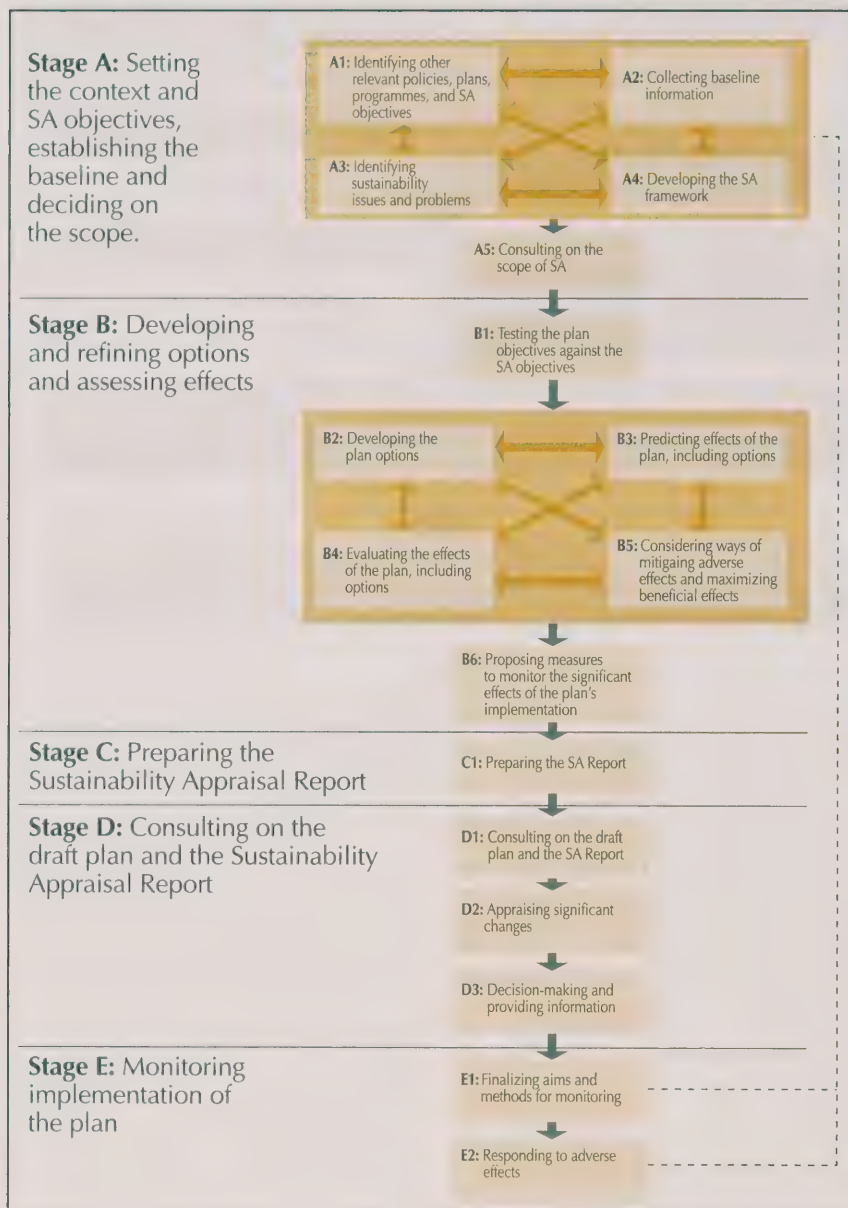
quality) of marine systems are maintained at appropriate temporal and spatial scales (see shaded components of Figure 1).

A key to giving effect to this approach is the preparation of an ecosystem overview and assessment report (EOAR) on the state of a large oceans management area (LOMA) including trends and patterns of human activity and their interaction with valued ecosystem components. This process, *prima facie*, fills a major gap in current methodologies for assessing cumulative effects, applying the internationally

recognized driving forces-pressures-states-impacts-response (DPSIR) framework to synthesize information on ecosystem functions and properties, and identifying threats and risks to resource productivity and the quality of the marine environment. It also promises to provide a baseline reference point for SEA or EIA of the impact of specific programs or projects on off-shore waters. The EOAR arguably may qualify or substitute for regional studies as designated under the ambiguous wording of section 16.2 of the *Canadian Environmental Assessment Act*.



**Figure 2**  
**Schematic of UK Sustainability Appraisal Process and Activities**



Source: ODPM, 2005b

Experiences to date with this approach are best described by those who know the system well, although it is probably fair to say that progress has been slower than that hoped for originally. The main points relate to its large-scale geographic coverage, the attempt to integrate ecosystem and socio-economic objectives, the application of the internationally recognized DPSIR framework to synthesize information on ecosystem functions and properties, and to identify threats and risks to resource productivity (although, in my view, it falls short on this track).<sup>4</sup>

### Sustainability Assessment of Land Use Plans, UK

The United Kingdom has a multi-level and territorially devolved system of SEA. It encompasses impact assessment of policies and regulations, SEA of sector plans and programs applied in accordance with European Directive 2001/42/EC, and a combined process of SEA and sustainability appraisal of land use and spatial plans mandated under the *Planning and Compulsory Purchase Act* (2004). This Act also meets the requirements of the Directive and represents a fundamental shift toward regional planning, adding a new tier of regional spatial strategies (RSS) to which local planning documents are generally required to conform. Comprehensive guidance on sustainability appraisal emphasizes that this process is to be applied as an

4 There is also the possibility that the EOAR may function as an REA-equivalent process under the ambiguous terms of section 16.2 of the *Canadian Environmental Assessment Act*. Section 16.2 opens the door to a discretionary role for "regional studies" to address cumulative effects outside the scope of the Act, but leaves unclear the nature of the relationship to a subsequent environmental assessment of a project conducted under the Act. As written, section 16.2 provides little or no incentive for a responsible authority to undertake a regional study that "may be taken into account" and (as far as I can determine) no supplementary guidance is available on the scope of this approach, how its results might help to meet the requirements of the Act, and which federal processes might qualify as a fit-for-purpose instrument.

integral part of regional and local plan making and embeds SEA concepts, such as baseline and significant effects, which apply to social and economic, as well as environmental considerations (ODPM, 2005). Figure 2 illustrates a schematic of the process.

A first generation of UK land use plans subject to a combined process of SEA and sustainability appraisal is now being rolled out. It is probably too early to make any sweeping judgment about the quality of sustainability appraisals or their contribution to successful plan making. However, emerging experience suggests their scope of application varies markedly, likely reflecting the range of statutory land use plans, from regional spatial strategies to local development frameworks, which are subject to this process. United Kingdom spatial plans typically would be smaller scale and address a more intensive range of rural and urban land use conflicts than would be commonplace in Canada. There are also indications of weaknesses at key stages of the process, such as consideration of alternatives and limited identification of critical environmental thresholds or bottom lines to be avoided (as opposed to objectives to be achieved). Another area of sustainability concern is the short shift apparently given to analyses of social and economic issues, although an initial worry was that these would dilute the consideration of environmental effects. Despite these concerns (which may reflect difficulties of merging SEA and sustainability appraisal), the methods and procedures used should be of wider interest (see Therivel, 2004).

### **Regional Strategic Environmental Assessment Process, Alberta**

The Alberta government is developing a regional strategic environmental assessment (RSEA) process in support of a cumulative effects management system (CEMS) and land-use planning framework (LUPF) for major regions of the province. It is intended to balance environmental, social, and economic objectives, and represents an attempt to address cumulative effects issues at their source, rather than reactively on a project-by-project basis. The problems and stresses encountered in the Oil Sands, where multiple large-scale developments have occurred in relatively close time sequence and spatial proximity to each other, appear to have been a particular driver in this respect. The Alberta RSEA process and CEMS and LUPF cornerstones are still at an early, prototype stage, but clearly this approach will be under close scrutiny in other parts of the country. The environmental assessment task group of the Canadian Council of Resource and Environmental Ministers is developing comparable principles and methodological guidance for RSEA that may well have wider application in Canada (Noble and Harriman, 2008a,b) (Noble and Gunn, this issue p.106).

In both instances, the case for RSEA is strongly made in relation to the limitations of project-level environmental assessment when addressing cumulative environmental effects. Key elements of the proposed Alberta process include:

- a statement of goals;

- process elaboration in relation to the geographic and temporal context of development;
- identification of valued ecological (and social and economic) components (VECs);
- regional baseline analysis and ecological characterization;
- a visioning exercise through discussion of public preferences and priorities for management;
- alternative development scenarios incorporating preferences and trend and state information;
- a GIS, which will be used to integrate diverse data sets (environmental, social, and economic), and express competing priorities;
- VEC-based assessment analysis of cumulative effects for each alternative; and
- choice of development strategy.

With certain variations, these are steps that form part of SAIM in general.

### **Concluding Thoughts and Some Ways Forward**

Still missing from many SAIM processes is an explicit link to sustainability thresholds and precautionary criteria that are critical to frame uncertainty and risk in an era when environmental and resource limits threaten future economic and social prospects. An enhanced level of risk proofing or environmental sustainability assurance can be gained through impact zoning systems, whereby land uses are allocated and types and intensities of



## Box 2

### Components for Successful SAIM

- Responds to and anticipates pressing, policy relevant issues
- Identifies uncertainties in information base – what we know, what we don't know, what we need to know and where we need to focus
- Leads to better understanding of ecosystem functions, spatially integrating knowledge across different disciplines
- Encourages co-operation among all stakeholders to take actions to break chains of cumulative effects not just to provide information that helps others to act
- Provides a robust forecast of potential changes and future states including identification of risks and impacts worth worrying about
- Informs strategic decision making whether these take the form of development approvals (e.g., regional plans) or choice of management strategies (e.g., development paths)
- Establishes adaptive, precautionary safeguards for VEC, such as critical habitat, species at risk, resource stocks
- Imparts a level of environmental sustainability assurance (e.g., using a risk framework to relate the level of threat to key thresholds and indicators)

## Box 3

### Spatial Characteristics Related to DPSIR Methodology

- Multi-activity, area-wide focus [*drivers*, relationships to valued ecosystem components]
- Trend and change orientation [*pressures*, early warning signs of cumulative effects]
- Baseline and effects-based [*state* of the resource within a defined geographical area or ecosystem]
- Synoptic perspective and synthesis [understanding *impacts* on critical ecosystem features and functions]
- Decision linkage [*response* to findings, from development approvals to planning/management strategy]

permitted activity are adjusted to resource potentials and constraints. This will be particularly the case if this approach is undertaken as part of a process that included other proxies of SAIM good practice as generalized in Box 2.

Spatial approaches to integrated management applications could benefit from the use or adaptation of the so-called DPSIR model, which is a widely used and internationally accepted scientific framework. Box 3 outlines the basic components and characteristics of the DPSIR model, particularly as they relate to a spatial approach. For example the conceptual framework for the millennium ecosystem assessment (MEA), which links the functions and conditions of ecosystems to human well-being, is an elaboration of the DPSIR model (Millennium Ecosystem Assessment, 2003). It is considered by many to be a state-of-the-art framework representing one of the outputs of a five-year work process by over a thousand scientists.

Finally, a new architecture of approach is needed to provide a greater measure of sustainability assurance. The United Nations Environment Program proposes a spatiality based Framework for the evaluation. It is based on three cornerstones that are further elaborated in Sadler (1999; 2002) and Dalal-Clayton and Sadler (in press):

- a floor and ceiling “compass” of triple top lines (TTLs) of sustainability aims, principles, and criteria, and triple bottom lines (TBLs) of minimum thresholds and safeguards against which the potential effects of proposals can be evaluated;

- a systematic procedure for assessment of the economic, environmental, and social effects and linkages of proposed actions; and
- a set of “rules of the game” for integrating and weighing their significance against TTL and TBL criteria to guide policy options and choices in support of sustainable development. ●

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## **Introduction**

Canada's land resources and waterways are under increasing pressure from the cumulative effects of human development. Part of the challenge in managing these cumulative effects has to do with the way in which we approach decisions about land use and development. The current state of the art can be described as operating in three silos: project proponents operating in the silo of environmental assessment to get approvals for their projects, with governments as gatekeepers; the scientific and academic community operating in the silo of local and regional studies to understand micro- and broader ecosystem

Each silo is valuable in its own right; however, this piecemeal approach is often at odds with the pursuit of sustainable land management. This is not to say that another layer of federally legislated environmental assessment is required in Canada; rather, there is a need to better integrate current planning and assessment systems and to do so at the regional and strategic tiers if any one silo is to be meaningful in facilitating sustainable development.

A renewed interest is emerging in Canada in more integrated, regional, and place-based approaches to resource and environmental planning, impact assessment, and land management. The terminology used to describe this is as diverse as the concept itself. In this article we adopt "integrated land management" (ILM) as an umbrella term to capture the variety of ecosystem and place-based approaches. Central to this is the understanding that a more integrated and regional approach provides a better understanding of the relationships between environment and development, the opportunity to address varied environmental problems in a single coherent framework (Panel on Integrated Land Management, 1997), and for a wider range of roles and stakes to be integrated in planning, impact assessment, and decision-making processes (Cooper and Sheate, 2004; Creasy, 2002; Joao, 2007).

This article does not debate the merits of ILM, as this is the focus of several other important articles and initiatives. Rather, we introduce regional strategic environmental assessment (R-SEA) as a supporting framework to facilitate the development and assessment of ILM

and landscape functioning, but with limited influence over project decisions; and land-use planners and environmental managers operating at the strategic level, above the project tier, focused on broader environmental planning and management concerns, while incremental stresses at the project scale continue to cumulate (see Duinker and Greig, 2006; Harriman Gunn and Noble, 2008).

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# **Regional Strategic Environmental Assessment for Integrated Land Management**

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strategies and plans. We first introduce the notion of R-SEA, followed by a brief example. We conclude with observations and future directions for R-SEA as an integrative planning and assessment framework.

## Regional Strategic Environmental Assessment

In early 2008, the Environmental Assessment Task Group of the Canadian Council of Ministers of the Environment commissioned a study to establish a foundation and methodological guidance for R-SEA (Noble and Harriman Gunn, 2008), a process designed to assess potential environmental effects systematically, including cumulative effects, of alternative strategic initiatives, policies, plans, or programs for a particular region (Noble and Harriman Gunn, 2008). The R-SEA process is not meant to replace existing ILM, impact assessment, or planning processes; rather, R-SEA facilitates and shapes the development of ILM and regional planning, conservation, and development initiatives to ensure that development in a region occurs within the context of planned (rather than the most likely) outcomes.

The overall objective of R-SEA is to inform the preparation of a preferred development strategy and associated environmental management framework for a region (Noble and Harriman Gunn, 2008). It is an integrative, regionally based assessment process, operating above the project tier and ensuring that knowledge and understanding about the cumulative effects of future development possibilities

**Table 1**  
**Core Principles of R-SEA**

Futures oriented	<ul style="list-style-type: none"> <li>• Focuses on identifying possible futures and the means to shape sustainable regional outcomes.</li> </ul>
Alternatives-based	<ul style="list-style-type: none"> <li>• Identifies and systematically compares the environmental effects of alternative development scenarios to obtain a vivid picture of the likely consequences of different initiatives, management plans, or courses of action.</li> </ul>
Integrative	<ul style="list-style-type: none"> <li>• An integral part of (and providing overall guidance to) the development of regional strategies and initiatives rather than serving as a framework against which already developed policies, plans, or programs are measured and assessed.</li> </ul>
Adaptive	<ul style="list-style-type: none"> <li>• Treats strategies, policies, plans, and programs as experiments, expecting to modify and adapt them as new knowledge is gained through implementation, monitoring, and feedback.</li> </ul>
Value ecosystem component-centred	<ul style="list-style-type: none"> <li>• Valued ecosystem components are the central focus of the impact assessment.</li> </ul>
Multi-scaled	<ul style="list-style-type: none"> <li>• Takes into account perturbations and processes operating at multiple spatial scales within and outside the region.</li> </ul>
Ecosystem-based	<ul style="list-style-type: none"> <li>• Scale of application is defined by ecological rather than political or administrative boundaries, with attention to important ecosystem relationships and pathways and processes of change.</li> </ul>
Multi-sector	<ul style="list-style-type: none"> <li>• Encompasses the activities, policies, and plans of multiple sectors that may exist in a region or may influence regional processes of change and decision making.</li> </ul>
Multi-tiered	<ul style="list-style-type: none"> <li>• The assessment informs and is informed by existing or proposed policies and plans influencing the region; it is also deliberately tiered toward downstream development assessment and decision-making processes.</li> </ul>
Opportunistic	<ul style="list-style-type: none"> <li>• Embraces the opportunity to examine regional development through broader stakeholder debate, and to create or modify institutional arrangements in support of sustainability.</li> </ul>

Source: Based on Dubé, 2003; Duinker and Greig, 2006; Noble and Harriman Gunn, 2008; Noble and Storey, 2001; and Retief, 2007.



inform the development and implementation of regional planning and conservation initiatives, and also trickle down to improve impact assessment and project-based decision making (Table 1). Emphasis is on ensuring the sustainability of a region and a desired level of environmental and socio-economic quality, rather than solely on mitigating the outcomes of the most likely development futures. In this regard, R-SEA is a means to facilitate the development of better ILM initiatives, enhance the performance of project-based impact assessment by setting targets and desired thresholds of change, and provide an early indication of the level of public interest and primary issues and concerns in a region.

## R-SEA Framework

An integrated planning and assessment process, R-SEA provides for an early, overall analysis of the relationships between alternative futures for a region and the potential environmental effects that may emerge from those futures (Noble and Harriman Gunn, 2009). The R-SEA approach is designed to evaluate systematically the cumulative effects of multi-sector land uses and surface disturbances under different future scenarios (Figure 1). Applying R-SEA in support of ILM plan development and assessment involves the following steps:

1) A pre-assessment phase focuses on developing a reference framework, scoping the environmental baseline, identifying cumulative baseline change, and delineating key trends and stressors of concern.

2) An impact assessment phase, often technical in nature, identifies and assesses the environmental effects and associated impacts of alternative plan options, leading to identification and selection of a preferred direction.

3) A post-assessment phase focuses on moving forward to plan implementation and monitoring, and following up on performance and effects post-implementation.

The focus is on creating images of the future state of development, natural change, and cumulative change in a region, asking “what if” questions concerning alternative development options. The R-SEA methodology is about informing the development or evaluation of alternative strategic policies, plans, or programs for a region and then comparing those alternatives based on their potential for cumulative environmental change, and in consideration of various socio-economic, environmental, and planning objectives.

## The R-SEA Approach: Great Sand Hills, Saskatchewan

There are no applications of formal R-SEA in Canada to date; however, a number of cases depict many of the good-practice characteristics of R-SEA

in an ILM context. One such example is the Great Sand Hills Regional Environmental Study, commissioned in 2004 by the Province of Saskatchewan.

Situated in the southwest portion of Saskatchewan, the Great Sand Hills is about 1,942 km<sup>2</sup> of native prairie overlying a more or less continuous surface deposit of unconsolidated sands, with

five dune complexes that total 1,500 km<sup>2</sup>. The region is home to several endangered, threatened, and sensitive species, and is considered to be the traditional territory of numerous First Nations groups in Saskatchewan, Alberta, and North Dakota. The region is also characterized both by large-scale and long-term anthropogenic-induced surface disturbance, in particular livestock grazing and natural gas development.

Regional land use planning in the Great Sand Hills started in the early 1990s, with the devel-

opment of a land use strategy and land use zoning designations. However, such initiatives did little to manage the nature and pace of development in the region, or to provide specific guidance for future development in a way that would ensure that the long-term ecological integrity of the area is maintained while economic benefits are realized (Noble, 2008). In response to mounting environmental pressures and

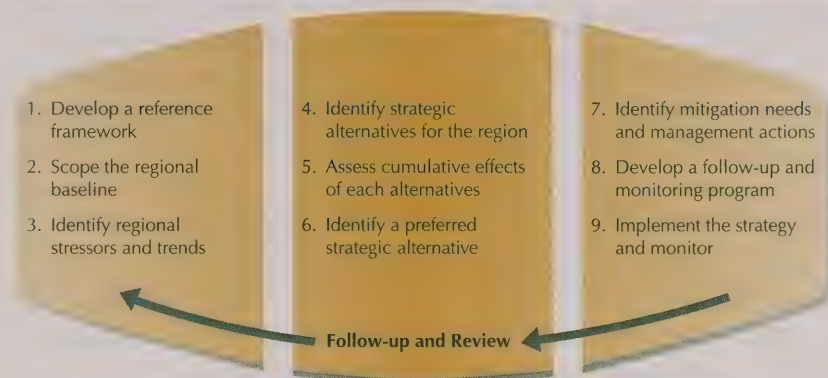
**R-SEA identifies early on the primary issues and concerns in a region, providing the opportunity for public debate of regional policies, goals, objectives, and alternative development options, and potentially minimizing conflict downstream in project-based assessments.**

growing conflict over land uses, a regional study was commissioned to provide a strategic assessment of human activities that cumulatively affect the long-term ecological integrity and sustainability of the region, and to provide recommendations, in the form of an integrated management plan, to guide future land use activities. An independent scientific advisory committee was appointed to oversee the assessment process.

The spatial scale of the R-SEA was multi-tiered, considering biophysical, socio-economic, and cultural boundaries, as well as the reach of existing policies, plans, and existing land uses that have the potential to affect the possible range of future land uses in the region. The assessment consisted of three main phases: a baseline that characterized the current and cumulative conditions of the region; the identification of past trends in land use and associated stress, conceptualized as “surface disturbance”; and the creation, projection, and assessment of alternative future land use scenarios and the recommendation of a preferred scenario and guidelines for implementation and monitoring. The assessment was completed in May 2007.

In the Great Sand Hills, the R-SEA facilitated the development and systematic analysis of alternative sustainable future scenarios and key environmental goals and objectives. Scenarios focused on alternative futures of development and conservation. Emphasis was placed on exploring the consequences associated with alternative spatial and temporal patterns of development, identifying a pre-

**Figure 1**  
**Methodological Framework for R-SEA**



Source: Based on Noble and Harriman Gunn, 2009; Noble and Storey, 2001.

ferred future based on ecological, social, and economic objectives, and devising the means to achieve it. This process filled a critical gap in the family of planning and assessment tools in the region, providing a higher-tiered forum in which to identify key environmental issues and to discuss and promote a sustainability agenda for the region, while providing standards, thresholds, and efficiencies for downstream project development initiatives. In this regard, the R-SEA approach managed to move forward in the Great Sand Hills where other processes stopped short: identifying desirable futures for protecting the ecological integrity of the region while maintaining a sustainable level of human economic and cultural activity (Noble, 2008).

### **Moving Forward: Opportunities and Requisites for R-SEA Innovation**

The benefits emerging from the application of an R-SEA type framework as a basis for assessment and regional land

use plan development are both procedural and substantive. Drawing on lessons from the Great Sand Hills, other Canadian-based regional planning and assessment initiatives, and international experience (see Noble, 2008; Noble and Harriman Gunn, 2008) we identify a number of benefits to R-SEA in support of ILM plan development and assessment.

- The R-SEA approach is a structured, yet flexible framework for ILM plan development and assessment, allowing for explicit analysis of trade-offs between alternative future land use scenarios, objectives, and targets, thus providing quality assurance that decisions are made based on an explicit set of rules, addressing the “fuzziness” of broad decisions at the regional and strategic levels.
- The R-SEA framework expands the current dialogue and conceptualizations of integration beyond resources, sectors, and the co-ordination of management efforts to also



direct attention to the potential benefits of integration among related tiers and scales of planning, management, and assessment.

- A strategic approach to ILM plan development ensures that broader environmental and socio-economic objectives can inform the plan development process and options assessment, thereby ensuring that the identified plan of action represents the most sustainable (as opposed to the most likely) way forward.
- Project-based impact assessments are often lightning rods for regional development issues; however, R-SEA identifies early on the primary issues and concerns in a region, providing the opportunity for public debate of regional policies, goals, objectives, and alternative development options, and potentially minimizing conflict downstream in project-based assessments.
- The R-SEA approach ensures that cumulative effects are assessed at the most appropriate level, beyond the scope and spatial scale of the individual development project, and that management measures are built in to ILM plans to avoid or minimize, rather than solely mitigate, potentially adverse cumulative environmental change.
- Sustainability targets, thresholds, and indicators of change identified during the R-SEA process serve as standards and inputs to project-based impact assessment, and establish a benchmark or goal posts against which the environmental

performance of development initiatives can be monitored and evaluated.

- In those regions where R-SEA is used, there is opportunity to facilitate data sharing on common indicators, and to maintain a “living baseline” through combined regional and project-based environmental monitoring programs, thereby increasing the efficacy and regional relevance of project-based impact assessments.

Notwithstanding the potential of R-SEA to advance ILM initiatives, and to integrate the current silos of planning and impact assessment in Canada, a number of constraints must be addressed if R-SEA is to be successful. Aside from the more technical issues, such as data quality and the availability of spatial data, the most pressing challenges to ensuring R-SEA success and the sustainability of ILM initiatives are largely institutional in nature (Noble, 2008, 2009).

First, many regionally based applications, including R-SEA or ILM initiatives, occur outside the scope of any formal regulatory process. As such, many initiatives are often seen as “one-offs” (Dubé, 2003), with no real mechanism to sustain them as an integral part of regional planning and downstream project impact assessment. With a growing interest in regional assessment frameworks and sustainability planning at all levels of government, there is an opportunity for federal leadership in the formal adoption of R-SEA as a framework to guide the development of federally controlled

land and oceans planning initiatives, and in the creation of an arm’s-length institutional arrangement to facilitate the process.

Second, and closely related to the above, is the limited tiering that exists to ensure that the results of R-SEA and ILM initiatives provide direct input to guidelines, terms of reference, and standards and indicators for downstream project-based environmental assessment practices. Currently, a formal mechanism does not exist to link regional ILM planning or assessment initiatives at the level of policies, plans, or programs to project-based impact assessment requirements. The R-SEA and ILM initiatives are of little use, if there is no mechanism to ensure their influence over project-based development decisions.

Third, the adaptive nature of R-SEA and related ILM initiatives is a challenge to the often static institutional arrangements in place to manage such processes. Although the initial application of R-SEA is a short-term exercise, implementation of the resulting ILM initiative and monitoring of its performance is not. Institutions must be willing to make long-term commitments to initiatives that emerge from R-SEA, and be willing to accept that the plan or policy implemented may need to be revisited as conditions change. Adaptive management and the capacity to adapt are critical to the long-term success of ILM initiatives.

Fourth, this long-term commitment requires federal re-investment in basic environmental monitoring. As unattractive as monitoring may seem, it is

central to measuring the success of any strategic, ILM, or other planning initiative. Monitoring of this sort cannot be achieved with development proponents operating independently in their monitoring and reporting efforts. There is a federal opportunity to establish standards and indicators for both coarse- and fine-filtered monitoring programs in those regions where R-SEA is implemented, and to follow up and monitor performance on a long-term basis.

Finally, R-SEA requires leadership from the federal government as well as a partnership with provincial governments. Any ILM initiatives demand inter-agency and inter-governmental collaboration with agencies working in partnership. Ideally, this requires a common vision. At a minimum, it demands commitment and clear delineation of roles and responsibilities for implementation of results and recommendations emerging from R-SEA. Many of these recommendations may be beyond the scope and authority of the government or government agency in charge of the assessment process. Thus, R-SEA requires a degree of government and inter-agency collaboration not typical of traditional project-based environmental assessments. It is here where federal leadership and federal institutional responsibility for R-SEA is central to success.

## Conclusion

The current approach to development decision making in Canada is often to predict and identify ways to mitigate the most likely effects associated with a proposed project or land use activity.

**...there is an opportunity for federal leadership in the formal adoption of R-SEA as a framework to guide the development of federally controlled land and oceans planning initiatives, and in the creation of an arm's-length institutional arrangement to facilitate the process.**

There is much less attention to asking whether the proposed undertaking is the most appropriate form of land use and development, or whether the potential cumulative effects of such actions are in conflict with broader regional or national sustainability goals or desired future conditions (Duinker and Greig, 2006; Harriman Gunn and Noble, 2008). Ensuring the sustainability of Canada's land resources and waterways requires a more proactive and integrative framework than

currently achieved through either conventional project-driven impact assessment or regional studies and planning initiatives. It requires a supporting strategic framework to identify and systematically assess the implications of alternative futures and strategic initiatives within a region, prior to implementing a preferred development plan or predictive framework to evaluate the impacts of proposed development actions. We believe there is considerable promise in R-SEA as a supporting framework for the integrated assessment and development of ILM initia-

tives, but for such a framework to be successful, there is a need for a federal champion and commitment to leadership in place-based, and spatially relevant planning and assessment processes. ●

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## Integrated Management: A Public Health Example

The Healthy Alternative Lifestyle Project was established in 2005 to improve the supply and consumption of healthy food to 14 small isolated communities in Quebec, which were experiencing restricted food choices associated with high transportation costs, declining employment options and a lack of social support networks. With its 20 partners the three year project aimed at lowering the costs of supplying a healthy diet, creating awareness of the benefits of healthy eating and testing the Sustainable Communities approach which focuses simultaneous intervention across social, environmental and economic realms. The Coasters Association, a Lower North Shore community group, was the lead and main point of contact for the project. Partners in the federal government included the Public Health Agency of Canada, Indian and Northern Affairs Canada, and Fisheries and Oceans Canada. Other partners

included provincial Ministère des affaires municipales, des régions et de l'occupation du territoire du Québec and municipal governments; local boards and associations; transportation companies; retailers and food suppliers; and financial institutions.

Outcomes included a healthier food supply by improving cooperation with retail, food and transportation service, establishing community gardens and creating awareness of the Food Mail Program (INAC). New social supports included community kitchens, Meals on Wheels for seniors, and nutritional sessions in schools. An economic development project to harvest and process regional wild berries was also established. The final evaluation report, prepared by the Population Health Fund, focussed on the project as a whole rather than the effectiveness of each partner's funding contributions.

A more detailed description of this initiative can be found on the Policy Research Initiative web site at <[www.pri-prp.gc.ca](http://www.pri-prp.gc.ca)>.

## **AAFC Geomatics – The National Land and Water Information Service (NLWIS)**

In March 2009 Agriculture and Agri-Food Canada launched the exciting new **Agri-Geomatics** website as part of the National Land and Water Information Service (NLWIS) project. This project benefited from the support of provincial governments, some municipal governments, as well as from federal departments and agencies, including Environment Canada, Natural Resources Canada and Statistics Canada. The Agri-Geomatics website provides a one-stop portal for interactive maps, planning tools, expertise, and geospatial data dealing with a wide range of information about agriculture and the environment. The developers of the site have pulled together data from a wide range of sources using Geographic Information System technology, providing interactive maps that help to visualize and explore data,

making the information more accessible. The website provides expert help to apply and interpret the information.

Currently, there are more than a dozen geographic applications available in Canada's two official languages. For instance, the Plant Hardiness Zones of Canada is very popular with Canadian gardeners and the "fence calculator" can map out and project the cost of fencing off an area. The data and tools housed by the Agri-Geomatics site also provide useful information that can be used in planning and decision-making by governments, producers, planners, and land-use managers across Canada, creating a knowledge base that can be shared.

A more detailed description of this initiative can be found on the Policy Research Initiative web site at <[www.pri-prp.gc.ca](http://www.pri-prp.gc.ca)>.

## **The Federal Family on Community Collaboration**

The Federal Family on Community Collaboration is an informal community of practice which brings together federal officials interested in collaborative action to improve the understanding of "place-based" approaches, their potential to improve well-being at the community level, and related implications for the federal government. The Family's work focuses on learning how social, economic, environmental and cultural issues intertwine and affect local communities. The network strives to improve federal engagement and action by focusing on key concerns such as policy coherence, authenticity, shared accountability, data sharing and trends relating to the federal government's roles and interests in communities.

The Family's core membership consists of about 10 colleagues working across federal departments, including Aboriginal affairs, culture, public health, immigration,

natural resources, public safety, rural development, statistics, and social development. The group is governed by principles of combined strength, sustainable impact, mutual learning and trust. Members meet twice monthly to discuss and advance issues of shared interest, identify potential partnerships, discuss challenges, explore the optimum federal role in communities, and develop new ideas. The Federal Family has contributed to horizontality and collaborative efforts within the federal government through the collective planning of a "Collaborative Community Initiatives Speaker Series" program, drafting and workshoping of a paper on place-based approaches to policy, establishing an interdepartmental working group on community data needs, and fostering a multi-sectoral research network on place-based approaches.

A more detailed description of this initiative can be found on the Policy Research Initiative web site at <[www.pri-prp.gc.ca](http://www.pri-prp.gc.ca)>.









## Agrogéomatiques – Le Service national d'information sur les terres et les eaux (SNITE)

Au mois de mars 2009, Agriculture et Agroalimentaire Canada a lancé le remarquable site Web Agrogéomatiques dans le cadre du projet du Service national d'information sur les terres et les eaux (SNITE). Ce projet a bénéficié du soutien des gouvernements provinciaux, de certaines administrations municipales, ainsi que de ministères et organismes fédéraux, dont Environnement Canada, Ressources naturelles Canada et Statistique Canada. Le site Web Agrogéomatiques est un portail d'information à guichet unique pour trouver des cartes interactives, des outils de planification, de l'expertise et des données géospatiales portant sur un vaste éventail de renseignements concernant l'agriculture et l'environnement. Les personnes qui ont participé à son élaboration ont rassemblé des données provenant toute une série de sources utilisant la technologie des systèmes d'information géographique (SIG) pour obtenir des cartes interactives

aidant à visualiser et explorer des données, ce qui rend cette information encore plus accessible. Le site offre l'aide d'experts pour appliquer et interpréter cette information.

À l'heure actuelle, plus d'une dizaine d'applications géographiques sont offertes dans les deux langues officielles du Canada. Les zones canadiennes de rusticité, par exemple, sont très populaires auprès des jardiniers du Canada et la « calculatrice de clôture » sert à cartographier et à prévoir le coût du clôturage d'une zone. Les données et les outils abrités sur le site Agrogéomatiques fournissent également une information précieuse pouvant servir à la planification et à la prise de décisions des gouvernements, des producteurs, des planificateurs et des urbanistes du Canada, ce qui crée une base de connaissances qui peut être partagée.

Une description plus détaillée de cette initiative se trouve sur le site du Projet de recherche sur les politiques <[www.prp-pri.gc.ca](http://www.prp-pri.gc.ca)>

## La famille fédérale pour les initiatives communautaires partenariales

publique, du développement rural, des statistiques nationales et du développement social. Les membres de la Famille ont accepté d'être régis par des principes selon lesquels ils doivent unir leurs forces, chercher à avoir une incidence durable, apprendre les uns des autres, et établir des rapports de confiance. La Famille se rencontre environ deux fois par mois pour discuter des dossiers d'intérêt commun et pour faire avancer ces dossiers, identifier des partenariats potentiels, discuter des défis, examiner le rôle optimal que pourrait jouer le gouvernement fédéral dans les collectivités et trouver de nouvelles idées. La famille fédérale a contribué aux efforts d'horizontalité et de collaboration au sein du gouvernement fédéral par planification collective d'une série de présentations sur les initiatives communautaires partenariales, rédaction en commun et ateliers de création d'un document sur les approches territoriales intégrées pour l'élaboration de politiques, formation d'un groupe de travail interministériel sur les besoins en données relatives à la collectivité, et créer un réseau de recherche multisectoriel sur les approches territoriales intégrées.

Une description plus détaillée de cette initiative se trouve sur le site du Projet de recherche sur les politiques <[www.prp-pri.gc.ca](http://www.prp-pri.gc.ca)>

La famille fédérale pour les initiatives communautaires partenariales est une collectivité de pratique informelle, a été mise sur pied pour permettre à des fonctionnaires fédéraux qui s'intéressent aux mesures collaboratives de se réunir afin de mieux faire comprendre les approches territoriales intégrées, les façons dont celles-ci sont susceptibles d'améliorer le mieux-être des collectivités et les conséquences connexes pour le gouvernement fédéral. La Famille cherche à mieux comprendre comment les enjeux sociaux, économiques, environnementaux et culturels se complètent et influent sur les collectivités. Le réseau se penche sur des questions importantes comme l'uniformité des politiques, authenticité, les responsabilités partagées ainsi que la mise en commun de données et tendances en relation avec les rôles et intérêts de gouvernement fédérale dans les collectivités.

La « famille » est composée d'une dizaine de fonctionnaires fédéraux qui travaillent notamment dans les domaines des questions autochtones, de la culture, de la santé publique, de l'immigration, des ressources naturelles, de la sécurité

## La gestion intégrée : un exemple en santé publique

Québec) et des administrations municipales, des conseils et associations locaux, des compagnies de transport, des détaillants et grossistes alimentaires et des institutions financières. Parmi les résultats, on peut citer un approvisionnement en aliments plus sains grâce à l'amélioration de la coopération avec les services de vente au détail, d'alimentation et de transport, la mise sur pied de jardins communautaires et la sensibilisation au Programme d'approvisionnement alimentaire par la poste d'AINC. Les nouveaux outils d'entraide comprenaient des cuisines communautaires, une popote roulante pour les personnes âgées et des séances d'apprentissage sur la nutrition dans les écoles. Un projet de développement économique visant à récolter et transformer des baies sauvages de la région a aussi été mis sur pied. Le rapport d'évaluation final, préparé par le Fonds pour la santé de la population, propose un regard d'ensemble sur le projet plutôt que d'être axé sur l'efficacité de l'apport financier de chacun des partenaires.

Le Projet pour un mode de vie sain a été mis sur pied en 2005 dans le but d'améliorer l'approvisionnement en aliments sains et leur consommation dans 14 petites communautés isolées du Québec, confrontées à une restriction du choix d'aliments en raison du coût élevé du transport, de la réduction des options d'emplois et du manque de réseaux d'entraide. Avec ses 20 partenaires, ce projet de trois ans visait à abaisser le coût de la prestation d'un régime alimentaire sain, à sensibiliser les habitants aux avantages d'une alimentation saine et à tester l'approche Collectivités durables, qui est axée sur une intervention simultanée dans les sphères sociale, environnementale et économique. La Coasters Association, un groupe communautaire de la Basse-Côte-Nord, était l'organisme directeur et le principal point de contact du projet. Ses partenaires provenant du gouvernement fédéral comprenaient l'Agence de santé publique du Canada, Affaires indiennes et du Nord Canada et Pêches et Océans Canada. Au nombre des autres partenaires, on comptait le gouvernement provincial (ministère des Affaires municipales, des Régions et de l'Occupation du territoire du

Une description plus détaillée de cette initiative se trouve sur le site du Projet de recherche sur les politiques <www.prp-pri.gc.ca>

- Joao, E., 2007. « A Research Agenda for Data and Scale Issues in Strategic Environmental Assessment (SEA) », *Environmental Impact Assessment Review*, vol. 27, p. 479-491.
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adaptative et la capacité d'adaptation sont essentielles au succès à long terme des initiatives de GIP. Quatrièmement, cet engagement à long terme exige que le gouvernement fédéral réinvestisse dans la surveillance environnementale de base. Aussi peu intéressante que la surveillance puisse sembler, elle est essentielle à la mesure du succès de toute initiative stratégique, de GIP ou de toute autre initiative de planification. Il est impossible d'assurer une telle surveillance si les promoteurs mènent leurs activités de surveillance et établissent des rapports de façon indépendante. Le gouvernement fédéral a la possibilité d'établir des normes et des indicateurs relatifs aux programmes de surveillance brute et de surveillance fine dans les régions où l'EES-R est mise en œuvre et d'assurer un suivi et une surveillance des résultats à long terme.

...la possibilité au gouvernement fédéral de jouer un rôle moteur dans l'adoption officielle d'un cadre d'EES-R pour éclairer l'élaboration d'initiatives fédérales de planification des terres et des océans et dans la création d'une entente institutionnelle d'égal à égal visant à faciliter le processus.

l'organisme gouvernemental responsable du processus d'évaluation. Par conséquent, l'EES-R nécessite un degré de collaboration gouvernementale et de collaboration inter-organismes qui n'est pas caractéristique des évaluations environnementales de projet conventionnelles. À ce point, le leadership du gouvernement fédéral et la responsabilité institutionnelle fédérale à l'égard de l'EES-R sont essentiels à son succès.

## Conclusion

L'approche actuelle du processus décisionnel en matière de développement au Canada consiste souvent à prédire et à déterminer des moyens visant à atténuer les effets les plus probables liés au de développement proposées. On ne se demande pas si l'activité proposée constitue la forme d'usage et d'aménagement des sols la plus appropriée ou si ses effets cumulatifs potentiels vont à l'encontre des grands objectifs de durabilité régionaux ou nationaux ou des conditions futures souhaitées (Duinker et Greig, 2006; Hartman Gunn et Noble, 2008). Pour assurer la durabilité des ressources du sol et des voies navigables du Canada, il faut un cadre plus proactif et intégratif que celui qu'offrent actuellement l'évaluation des impacts axés sur un projet et initiatives de planification ou les études régionales. Il faut un cadre stratégique pour déterminer et évaluer systématiquement les conséquences des divers scénarios d'avenir et initiatives stratégiques au sein d'une région, avant de mettre en œuvre un plan de développement.

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- point de vue spatial. ●
- légèreté en vue d'évaluer les impacts des activités de développement proposées. Nous croyons que l'EES-R a un avenir très prometteur en tant que cadre d'appui pour l'évaluation et l'élaboration intégrées d'initiatives de GIP, mais que, pour qu'un tel cadre soit efficace, le gouvernement fédéral doit jouer un rôle de leadership et se faire le champion de processus d'évaluation et de planification axés sur les lieux et plus pertinents du

- Le cadre d'EES-R élargit le dialogue actuel et les conceptualisations d'intégration au-delà des ressources, des secteurs et de la coordination des efforts de gestion pour attirer aussi l'attention sur les avantages potentiels de l'intégration parmi les paliers et les échelles de planification, de gestion et d'évaluation.
- Une approche stratégique de l'élaboration des plans de GIP fait en sorte que les objectifs environnementaux et socioéconomiques plus généraux peuvent éclairer le processus d'élaboration des plans et d'évaluation des options, assurant ainsi que le plan d'action choisi représente la solution la plus durable (plutôt que la plus probable).
- Les évaluations des impacts axées sur un projet servent souvent de paratonnerres aux questions de développement régional; cependant, l'EES-R détermine rapidement les enjeux et les problèmes les plus importants dans une région, offrant la possibilité de tenir un débat public sur les politiques, les buts, les objectifs régionaux et les autres options de développement, et réduisant potentiellement les conflits en aval dans les évaluations propres à chaque projet.
- L'approche d'EES-R assure que les effets cumulatifs sont évalués au palier le plus approprié, au-delà de la portée et de l'échelle spatiale du projet, et que des mesures de gestion sont intégrées aux plans de GIP afin d'éviter ou de réduire au minimum, plutôt que de seulement atténuer, les effets environnementaux négatifs cumulatifs.
- Les objectifs de durabilité, les seuils et les indicateurs de changement établis dans le cadre du processus d'EES-R servent de normes et de données

- Dans les régions qui ont recours à l'EES-R, il est possible de faciliter l'échange de données sur des indicateurs communs et de maintenir une « base de référence vivante » au moyen de programmes combinés de surveillance environnementale régionale et axée sur les projets, augmentant ainsi l'efficacité et l'intérêt régional des évaluations des impacts axées sur les projets.
- Dans les régions qui ont recours à l'EES-R, il est possible de faciliter l'échange de données sur des indicateurs communs et de maintenir une « base de référence vivante » au moyen de programmes combinés de surveillance environnementale régionale et axée sur les projets, augmentant ainsi l'efficacité et l'intérêt régional des évaluations des impacts axées sur les projets.

Malgré le potentiel de l'EES-R à faire avancer les initiatives de GIP et à intégrer les cloisonnements actuels de l'évaluation des impacts et de la planification au Canada, pour que l'EES-R atteigne son but, il faut s'employer à renverser un certain nombre d'obstacles. À part les questions plus techniques, comme la qualité des données et la disponibilité des données spatiales, les problèmes plus urgents pour assurer le succès de l'EES-R et la durabilité des initiatives de GIP sont en grande partie de nature institutionnelle (Noble, 2008, 2009).

Premièrement, beaucoup d'applications à l'échelle régionale, y compris l'EES-R ou les initiatives de GIP, ont lieu à l'extérieur du champ d'application des processus réglementaires, de sorte que beaucoup d'initiatives sont souvent considérées comme des « exemplaires uniques » (Dubé, 2003) sans mécanisme concret pouvant les soutenir en tant que partie intégrante de la planification régionale et de l'évaluation des impacts plus marquée envers les cadres d'évaluation régionale et la planification durable

à tous les paliers de gouvernement offre la possibilité au gouvernement fédéral de jouer un rôle moteur dans l'adoption officielle d'un cadre d'EES-R pour éclairer l'élaboration d'initiatives fédérales de planification des terres et des océans et dans la création d'une entente institutionnelle d'égal à égal visant à faciliter le processus.

Le deuxième point, qui est étroitement lié au premier, concerne les liens limités entre les niveaux permettant d'assurer que les résultats de l'EES-R et des initiatives de GIP contribuent directement aux lignes directrices, aux cadres de référence et aux normes et indicateurs dans les pratiques d'évaluation environnementale axée sur les projets en aval. À l'heure actuelle, il n'existe pas de mécanisme officiel faisant le lien entre les initiatives d'évaluation ou de planification régionale de GIP au palier des politiques, des plans ou des programmes, et les exigences en matière d'évaluation des impacts axée sur les projets. L'EES-R et les initiatives de GIP n'ont pas vraiment d'utilité s'il n'y a pas de mécanisme qui assure leur influence sur les décisions de développement axées sur les projets.

Troisièmement, pour les ententes institutionnelles en place, qui sont souvent statiques, la nature adaptative de GIP l'EES-R et des initiatives de GIP connexes complicate la gestion des processus de ce type. Bien que l'application initiale de l'EES-R soit un exercice à court terme, la mise en œuvre de l'initiative de GIP qui en découle et la surveillance de ses résultats ne le sont pas. Les institutions doivent être disposées à prendre des engagements à long terme à l'égard des initiatives qui découlent de l'EES-R et à accepter que le plan ou la politique mis en œuvre soit réexaminé si les conditions changent. La gestion



économiques (Noble, 2008). En réponse aux pressions environnementales de plus en plus fortes et au conflit grandissant concernant l'usage des sols, une étude régionale a été commandée en vue de présenter une évaluation stratégique des activités humaines qui, de façon conjuguée, nuisent à l'intégrité et à la durabilité écologique à long terme de la région, et de formuler des recommandations, sous la forme d'un plan de gestion intégrée, visant à orienter les usages futurs des sols. Un comité consultatif scientifique indépendant a été nommé pour superviser le processus d'évaluation.

L'EES-R, qui a été réalisée à une échelle spatiale multi-paliers, tenait compte des limites biophysiques, socioéconomiques et culturelles ainsi que de l'influence des politiques et des plans existants et de l'usage actuel des sols qui peuvent avoir des incidences sur l'étendue possible de l'utilisation future des terres dans la région. L'évaluation comportait trois phases principales : une étude de référence décrivant les conditions actuelles et cumulatives de la région; l'établissement de tendances passées en ce qui a trait à l'usage actuel des sols et les agressions connexes, appelées « perturbations de surface »; et la création, la projection et l'évaluation de divers scénarios futurs d'usage actuel des sols et la recommandation d'un scénario et de lignes directrices privilégiées pour la mise en œuvre et le suivi. L'évaluation a été terminée en mai 2007.

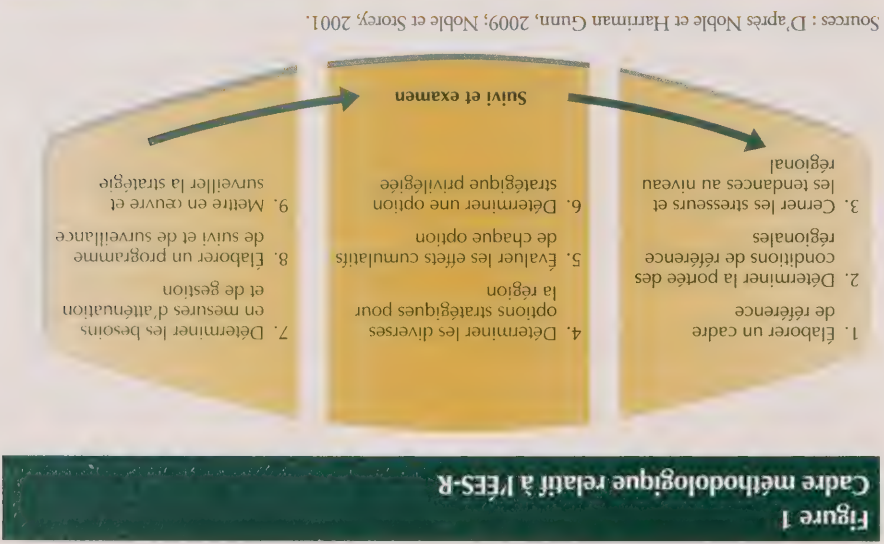
Dans la région des Great Sand Hills, l'EES-R a facilité l'élaboration et l'analyse systématique de différents scénarios futurs d'environnement durable et de buts et objectifs environnementaux clés. Les scénarios étaient axés sur différentes possibilités de développement et de

conservation. Une place importante était accordée à l'examen des conséquences liées à d'autres modèles spatiaux et temporels de développement, à la détermination d'un avenir souhaitable en fonction d'objectifs écologiques, sociaux et économiques et à l'élaboration de moyens pour y parvenir. Ce processus a comblé une lacune très importante dans la série d'outils de planification et d'évaluation dans la région, en offrant un cadre de discussion à un échelon supérieur qui permet de définir les principaux enjeux environnementaux dans la région et d'examiner et de favoriser un programme de durabilité, tout en fournissant des normes, des seuils et des taux d'efficacité pour les initiatives en aval de l'élaboration de projet. À cet égard, dans le cas de la région des Great Sand Hills, l'approche de l'EES-R a permis d'aller de l'avant, là où d'autres processus avaient échoué : définir des avenir souhaitables pour la protection de l'intégrité écologique de la région tout en maintenant un niveau durable d'activités humaines, économiques et culturelles (Noble, 2008).

**Aller de l'avant : possibilités et conditions requises pour l'innovation en matière d'EES-R**

L'application d'un cadre de type EES-R pour l'évaluation et l'élaboration d'un plan d'utilisation des terres offre des avantages tant sur le plan des procédures que sur le plan technique. En mettant à profit les enseignements tirés des Great Sand Hills, des autres initiatives de planification et d'évaluation régionales mises en œuvre au Canada et de l'expérience internationale (voir Noble, 2008; Noble et Hartman Gunn, 2008), nous constatons plusieurs avantages liés à l'EES-R qui favorisent l'évaluation et l'élaboration de plans de GIT.

- L'approche de l'EES-R consiste en un cadre structuré, mais souple, pour l'élaboration et l'évaluation d'un plan de GIT, qui permet une analyse explicite des compromis entre les divers scénarios futurs d'usage des sols, les objectifs et les cibles, assurant ainsi une prise de décisions en fonction d'une série explicite de règles, qui tiennent compte du côté « flou » des décisions de portée générale aux paliers régional et stratégique.



exemples de bonnes pratiques en matière d'EES-R dans un contexte de GIT. L'étude environnementale régionale de Great Sand Hills commandée en 2004 par la province de la Saskatchewan en est un exemple.

Située dans la portion sud-ouest de la Saskatchewan, la région des Great Sand Hills couvre une superficie de près de 1 942 km<sup>2</sup> de prairie indigène recouvrant une surface plus ou moins continue de sable non consolidé et comportant cinq champs de dunes d'une superficie totale de 1 500 km<sup>2</sup>. La région abrite plusieurs espèces menacées, sensibles et en voie de disparition et est considérée comme le territoire traditionnel de nombreux groupes des Premières Nations de la Saskatchewan, de l'Alberta et du Dakota du Nord. La région est également caractérisée par des perturbations de surface anthropogènes à long terme et à grande échelle, notamment l'exploitation des grands pâturages et la mise en valeur du gaz naturel.

La planification régionale de l'usage des sols dans la région des Great Sand Hills a commencé au début des années 1990 par l'élaboration d'une stratégie et la désignation de zones. Cependant, de telles initiatives n'ont guère aidé à faire face à la nature et au rythme du développement dans la région ni à donner une orientation précise à l'égard du développement futur de manière à s'assurer que l'intégrité écologique à long terme de la région soit maintenue tout en réalisant des bénéfices

2) Une phase d'évaluation des impacts, souvent de nature technique, qui détermine et évalue les effets environnementaux et les impacts connexes des options de plans de rechange, donnant lieu à la détermination et à la sélection d'une orientation souhaitée.

3) Une phase postérieure à l'évaluation axée sur les étapes de mise en oeuvre et de surveillance, et sur le suivi des résultats et des effets, à la suite de la mise en oeuvre.

L'accent est mis sur la création d'images de l'état futur du développement, des changements naturels et des changements cumulatifs d'une région, en posant des questions hypothétiques sur diverses options de développement. La méthodologie de l'EES-R a pour objet de guider l'élaboration ou l'évaluation d'une série d'options de politiques, de plans ou de programmes stratégiques pour une région, pour ensuite comparer ces options en fonction de leur potentiel en matière de changements cumulatifs et de plans cumulatifs en tenant compte de divers objectifs de nature socioéconomique, environnementale et de planification.

Jusqu'à présent, aucune EES-R officielle n'a été réalisée au Canada; cependant, plusieurs cas présentent de nombreux

## L'approche de l'EES-R : Great Sand Hills, Saskatchewan

- L'EES-R détermine rapidement les enjeux et les problèmes les plus importants dans une région, offrant la possibilité de tenir un débat public sur les politiques, les buts, les objectifs régionaux et les autres options de développement, et réduisant potentiellement les conflits en aval dans les évaluations propres à chaque projet.

connaissance et la compréhension des effets cumulatifs de futures possibilités de développement peuvent éclairer l'élaboration et la mise en oeuvre d'initiatives régionales de planification et de conservation, et se propagent en vue d'améliorer l'évaluation des impacts et la prise de décisions à l'échelle du projet (tableau 1). On vise surtout à assurer la durabilité d'une région et l'atteinte d'un niveau souhaité de qualité environnementale et socioéconomique, plutôt qu'à atténuer uniquement les incidences les plus probables. À cet égard, l'EES-R permet de faciliter l'élaboration de meilleures initiatives de GIT, d'améliorer l'exécution de l'évaluation des impacts axée sur les projets en fixant des objectifs et des seuils de changement souhaités, et de déterminer dès le début le niveau d'intérêt public ainsi que les grands enjeux et les principales préoccupations dans une région.

En tant que processus intégré de planification et d'évaluation, l'EES-R permet une analyse précoce et globale des relations qui existent entre les divers scénarios d'avenir d'une région et les effets environnementaux cumulatifs éventuels pouvant résulter de ces scénarios (Noble et Hartman Gunn, 2009). L'approche relative à l'EES-R a pour but d'évaluer systématiquement les effets cumulatifs entraînés par des utilisations multisectorielles des terres et par des perturbations de surface, dans différents scénarios d'avenir (figure 1). Le recours à l'EES-R pour contribuer à l'élaboration et à l'évaluation d'un plan de GIT comporte les étapes suivantes :

1) Une phase antérieure à l'évaluation qui vise à élaborer un cadre de référence, à déterminer la portée des conditions environnementales de référence, à déterminer le changement cumulé de référence et à définir les principales tendances et les plus importantes cause de stress.



**Tableau 1**  
**Principes fondamentaux du processus d'EES-R**

Prospectif	<ul style="list-style-type: none"> <li>• Axé sur la détermination des futurs possibles et les moyens d'influencer des résultats régionaux durables.</li> </ul>
Axé sur les actions possibles	<ul style="list-style-type: none"> <li>• Détermine et compare systématiquement les effets environnementaux de différents scénarios de développement afin de tracer un tableau clair des conséquences vraisemblables de différents plans de gestion, lignes d'action ou initiatives.</li> </ul>
Intégratif	<ul style="list-style-type: none"> <li>• Fait partie intégrante de l'élaboration des stratégies et des initiatives régionales et offre une orientation globale pour ces dernières au lieu de servir de cadre en fonction duquel des politiques, des plans ou des programmes existants sont mesurés ou évalués.</li> </ul>
Adaptatif	<ul style="list-style-type: none"> <li>• Traite les stratégies, les politiques, les plans et les programmes comme des expériences, qu'il entend modifier et adapter à mesure que les activités de mise en œuvre, de suivi et de rétroaction viennent enrichir les connaissances.</li> </ul>
Axé sur les composantes valorisées de l'écosystème	<ul style="list-style-type: none"> <li>• Les composantes valorisées de l'écosystème constituent l'élément central de l'évaluation des impacts.</li> </ul>
Multi-scalaire	<ul style="list-style-type: none"> <li>• Tient compte des perturbations et des processus qui se produisent à des échelles spatiales différentes au sein et à l'extérieur d'une région.</li> </ul>
Axé sur l'écosystème	<ul style="list-style-type: none"> <li>• L'échelle d'application est définie par des limites écologiques plutôt que par des limites politiques ou administratives, et l'attention est portée aux importantes interactions des écosystèmes et aux cycles et processus de changement.</li> </ul>
Multisectoriel	<ul style="list-style-type: none"> <li>• Englobe les activités, les politiques et les plans des multiples secteurs qui peuvent exister dans une région ou qui peuvent influencer les processus de changement ou la prise de décisions à l'échelon régional.</li> </ul>
Multipalier	<ul style="list-style-type: none"> <li>• L'évaluation sert de base aux politiques et aux plans proposés qui influencent la région, et vice versa; elle en aval d'évaluation des activités de développement est échelonnée intentionnellement vers les processus en aval d'évaluation des activités de développement et de prise de décisions.</li> </ul>
Opportuniste	<ul style="list-style-type: none"> <li>• Donne l'occasion d'examiner le développement régional grâce à un débat élargi entre les intervenants, et de créer ou de modifier des ententes institutionnelles en vue de la durabilité de l'environnement.</li> </ul>

Source : D'après Dubé, 2003; Duinker et Greig, 2006; Noble et Harriman Gunn, 2008; Noble et Storey, 2001; et Retief, 2007.

présente plutôt l'évaluation environnementale stratégique régionale (EES-R) en tant que cadre d'appui visant à faciliter l'élaboration et l'évaluation de stratégies et de plans de GIP. Nous donnons d'abord un aperçu de la notion d'EES-R, suivi d'un bref exemple. Nous concluons par des observations et des orientations futures pour l'EES-R comme cadre intégratif d'évaluation et de planification.

## L'évaluation environnementale stratégique régionale

Au début de 2008, le Groupe de travail sur l'évaluation environnementale du Conseil canadien des ministres de l'Environnement a commandé une étude en vue d'établir les bases de l'EES-R et une orientation méthodologique (Noble et Harriman Gunn, 2008), un processus conçu pour évaluer de façon systématique les effets environnementaux potentiels, y compris les effets cumulatifs, de diverses initiatives, politiques, plans ou programmes stratégiques dans une région donnée (Noble et Harriman Gunn, 2008). Le processus d'EES-R ne vise pas à remplacer les processus existants de GIP, d'évaluation des impacts ou de planification; l'EES-R facilite et oriente l'élaboration de la GIP et des initiatives régionales de planification, de conservation et d'aménagement dans le but de s'assurer que le développement dans une région appuie les résultats plus souhaitables plutôt que les plus vraisemblables.

L'objectif global de l'EES-R consiste à guider la préparation d'une stratégie de développement privilégiée et d'un cadre de gestion environnementale connexe pour une région (Noble et Harriman Gunn, 2008). Il s'agit d'un processus d'évaluation intégratif axé sur la région, qui se déroule à un palier supérieur à celui du projet et grâce auquel la

I'échelon du projet continuant de s'ajou-  
ter (voir Duinker et Greig, 2006; Har-  
riman Gunn et Noble, 2008).

Chaque cloisonnement est important  
en lui-même; cependant, cette approche  
fragmentée est souvent en contradiction  
avec l'atteinte d'une gestion durable des  
terres. Cela ne veut pas dire que le  
Canada a besoin d'un autre niveau  
d'évaluation environnementale régi par  
le gouvernement fédéral; le besoin réside  
plutôt dans une meilleure intégration  
des systèmes de planification et d'évalua-  
tion actuels, et ce, aux paliers régional et  
stratégique, pour que chaque cloisonne-  
ment contribue à la facilitation du déve-  
loppement durable.

Au Canada, on observe un regain d'in-  
térêt envers des approches plus intégrées,  
plus régionales et davantage adaptées au  
milieu en matière de planification des  
ressources et de l'environnement, d'éva-  
luation des impacts et de gestion des  
terres. La terminologie utilisée pour  
décrire ce concept est aussi diversifiée  
que le concept en soi. Dans le présent  
article, nous adoptons le terme « gestion  
intégrée des » (GIP) comme terme géné-  
ral pour exprimer la variété des  
approches basées sur les écosystèmes et  
les lieux. Il est essentiel de comprendre  
qu'une approche plus intégrée et plus  
régionale assure une meilleure compré-  
hension des relations entre l'environne-  
ment et le développement, et permet de  
résoudre plusieurs problèmes environne-  
mentaux dans un cadre unique et cohé-  
rent (Groupe d'étude sur la gestion  
intégrée des terres, 1997) et d'intégrer  
un plus grand éventail de rôles et d'inté-  
rêts dans les processus de planification,  
d'évaluation des impacts et de prise de  
décisions (Cooper et Sheate, 2004;  
Creasy, 2002; Joao, 2007).

Comme plusieurs autres projets et arti-  
cles importants s'intéressent déjà aux  
mérites de la GIP, le présent article

## Introduction

Les ressources du sol et les voies navi-  
gables du Canada sont de plus en  
plus mises à rude épreuve par les  
effets cumulatifs du développement  
humain. La difficulté de la gestion de ces  
effets cumulatifs est due en partie à la  
façon dont nous abordons les décisions  
concernant l'utilisation et l'aménage-  
ment des terres. On peut dire qu'il existe  
actuellement trois cloisonnements : les  
promoteurs de projets qui œuvrent dans  
le cloisonnement de l'évaluation environ-  
nementale en vue de faire approuver  
leurs projets, les gouvernements agissant  
à titre de protecteurs du public; les  
milieux scientifiques et universitaires qui  
œuvrent dans le cloisonnement des  
études locales et régionales afin de com-

prendre le fonctionnement des écosys-  
tèmes et du paysage, à toutes les échelles,  
mais dont l'influence sur les décisions est  
limitée; et les planificateurs de l'utilisa-  
tion du sol et les gestionnaires de l'envi-  
ronnement qui œuvrent au niveau  
stratégique, au-dessus du palier du pro-  
jet, concernés par les problèmes d'amé-  
nagement et de gestion de portée plus  
générale, tandis que les agressions à

# L'évaluation environnementale stratégique régionale en appui à la gestion intégrée des terres

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## Références

- un « compas » de plancher et de plafond comprenant une triple ligne supérieure (« TTL ») composée des buts, des principes et des critères de durabilité et une triple ligne inférieure (« TBL ») composée des seuils minimums et des sauvegardes, permettant l'évaluation des effets potentiels des propositions;
  - une procédure systématique pour l'évaluation des effets économiques, environnementaux et sociaux et des liens des actions proposées;
  - un ensemble de « règles du jeu » pour l'intégration et la pondération de leur importance face aux critères des TTL et des TBL, afin de guider les options et les choix en matière de politiques en appui au développement durable. ●
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## Encadré 2 Éléments de succès des approches spatiales de la gestion intégrée

- Répondre aux enjeux pressants en matière de politique et les prévoir.
- Recenser les incertitudes dans la base d'information : ce que nous savons, ce que nous ne savons pas et sur quoi nous devons concentrer nos efforts.
- Conduite vers une meilleure compréhension des fonctions de l'écosystème par l'intégration spatiale des connaissances dans différentes disciplines.
- Encourager la coopération entre tous les intervenants pour les amener à poser des gestes pour briser les chaînes d'effets cumulatifs et non seulement à fournir de l'information permettant à d'autres d'agir.
- Fournir une prévision solide des changements potentiels et des états futurs, incluant le recensement des risques et des effets dont il est justifié de s'inquiéter.
- Éclairer la prise de décision stratégique, que celle-ci prenne la forme d'une approbation du développement (p. ex. : plans régionaux) ou du choix des stratégies de gestion (p. ex. : voies de développement).
- Établir des mesures de protection adaptative et de précaution pour les CVE, comme les habitats critiques, les espèces en péril et les stocks de ressource.
- Conférer un degré d'assurance de la durabilité environnementale (p. ex. : utilisation d'un cadre de risque pour relier le niveau de menace à des seuils et des indicateurs clés).

## Encadré 3 Caractéristiques spatiales du modèle FPEIR

- Accent sur la multi-activité et les secteurs au sens large [*moteurs*, liens avec les composantes valorisées de l'écosystème].
- Tendances et orientation du changement [*pressions*, signaux d'avertissement précoces d'effets cumulatifs].
- Fondé sur les données de base et les effets [*état* de la ressource dans un secteur géographique déterminé ou un écosystème].
- Perspective synoptique et synthèse [comprendre les *effets* sur les caractéristiques et les fonctions critiques de l'écosystème].
- Lien avec les décisions [*réponse* aux constats, de l'approbation du développement jusqu'à la stratégie de planification/gestion].

En conclusion, il faut une nouvelle architecture d'approche pour offrir une plus grande assurance de durabilité. Le programme des Nations Unies pour l'environnement propose un cadre spatialement orienté pour l'évaluation. Il repose sur trois piliers présents de manière plus approfondie par Sadler (1999; 2002) et Dalal-Clayton et Sadler (sous presse) :

élévée de protection contre les risques ou d'assurance de la durabilité environnementale par l'application de systèmes de zonage des effets, dans lesquels l'aménagement du territoire, le type et l'intensité des usages permis sont modulés selon le potentiel des ressources et les contraintes qu'elles imposent. Ceci sera particulièrement le cas si cette approche est utilisée dans le cadre d'un processus qui comprend d'autres approximations des milieux spatiales de la gestion intégrée, dont un aperçu général est donné dans

l'encadré 2.

Les applications d'approches spatiales de la gestion intégrée pourraient bénéficier de l'utilisation ou de l'adaptation du modèle FPEIR, qui constitue un cadre scientifique largement utilisé et reconnu à l'échelle internationale. L'encadré 3 présente les éléments et les caractéristiques de base du modèle FPEIR, notamment dans leur application à l'approche spatiale. Par exemple le cadre conceptuel de l'évaluation de l'écosystème du millénaire, qui lie les fonctions et les conditions des écosystèmes au bien-être des humains, est une déclinaison du modèle FPEIR (Évaluation des systèmes pour le millénaire, 2003). Plusieurs le considèrent comme un cadre de pointe représentant l'un des produits d'une réflexion de cinq ans par plus d'un millier de chercheurs.



## Processus d'évaluation environnementale stratégique régionale, Alberta

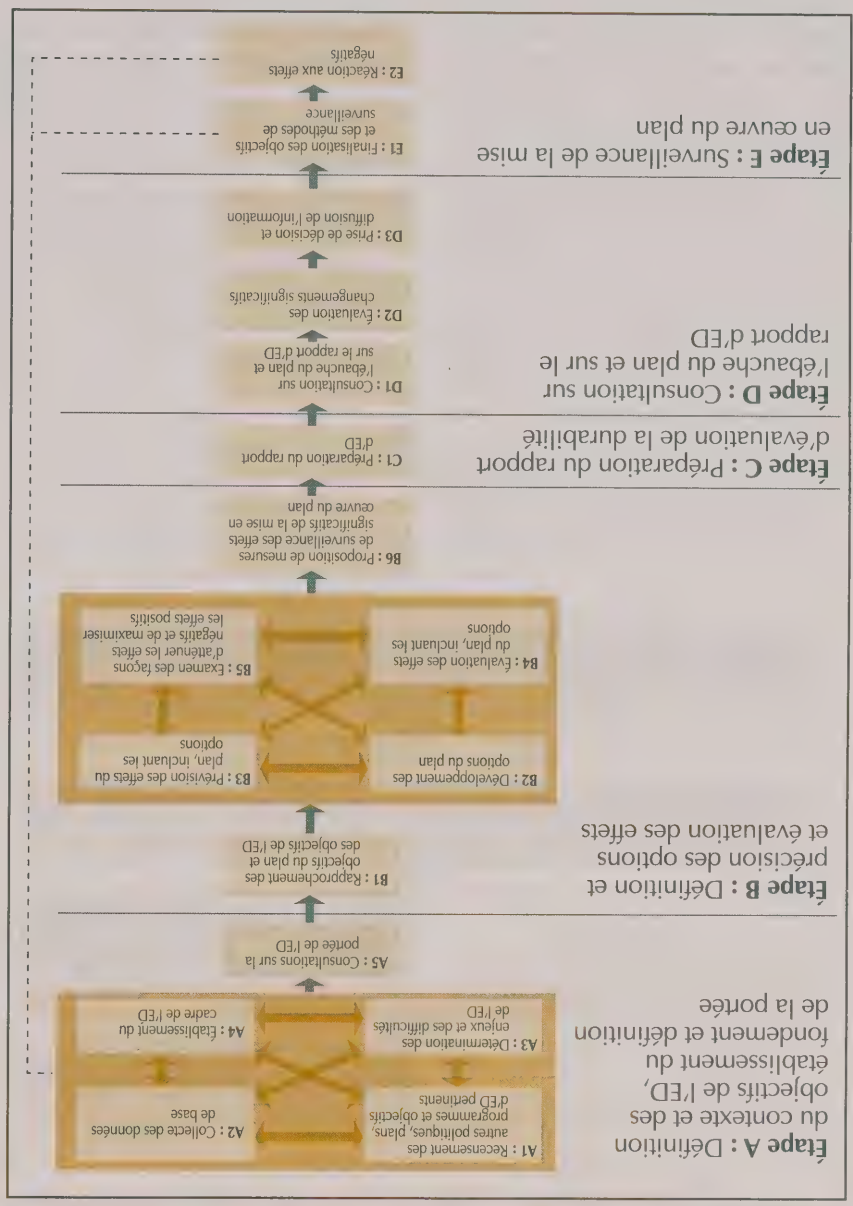
- L'élaboration d'un processus tenant compte du contexte géographique et temporel du développement;
  - Le recensement des composantes valorisées de l'écosystème (CVE) (incluant les composantes sociales et économiques);
  - une analyse de base et une caractérisation écologique régionales;
  - un exercice d'élaboration d'une vision par l'entremise de discussions sur les préférences du public et les priorités de gestion;
  - des scénarios de développement de rechange incorporant des préférences, des tendances et de l'information sur l'état de la situation;
  - un SIG, qui sera utilisé pour intégrer les différents ensembles de données (environnementales, sociales et économiques), et exprimer les priorités concurrentes;
  - une analyse des effets cumulatifs fondée sur les CVE pour chacune des solutions;
  - un choix de stratégies de développement.
- Avec certaines variations, toutes ces étapes font aussi partie des approches spatiales de la gestion intégrée en général.
- ### Conclusions et quelques voies d'avenir
- Il manque encore dans la plupart des processus d'approches spatiales de la gestion intégrée un lien explicite avec les seuils de durabilité et les critères de précaution qui sont cruciaux pour encadrer l'incertitude et le risque à une époque où les limites posées par l'environnement et les ressources menacent les perspectives économiques et sociales futures. On peut obtenir un degré plus

Au Royaume-Uni, une première génération de plans d'aménagement du territoire assujettis à un processus combiné d'EES et d'évaluation de la durabilité est maintenant en cours de mise en œuvre. Il est probablement trop tôt pour porter quelque jugement que ce soit sur la qualité des évaluations de la durabilité ou sur leur contribution au succès de la planification. Cependant, les premiers résultats semblent indiquer que leur portée d'application varie largement reflétant probablement la gamme de plans d'aménagement du territoire assujettis au processus, depuis les stratégies spatiales régionales jusqu'aux cadres de développement local. Un plan spatial au Royaume-Uni serait généralement à plus petite échelle et traiterait une problématique d'aménagement du territoire rural et urbain plus intensive que ce n'est généralement le cas au Canada. Il existe également certaines indications de manière de durabilité est le peu de cas apparemment fait de l'analyse des enjeux sociaux et économiques, même si on craignait au départ que ces analyses ne diluent la prise en compte des effets environnementaux. Malgré ces préoccupations (qui peuvent refléter la difficulté de fusionner l'EES et l'évaluation de la durabilité), les méthodes et les procédures employées devraient susciter un intérêt plus large (voir Thérivel, 2004.)

Le gouvernement de l'Alberta est à établir un processus d'évaluation environnementale stratégique régional (ESSR) en appui à un système de gestion des effets cumulatifs et à un cadre de planification de l'aménagement du territoire pour les grandes régions de la province. Le processus doit viser l'équilibre entre les objectifs environnementaux, sociaux et économiques et représenter une tentative d'aborder les effets cumulatifs à la source plutôt que d'y réagir au cas par cas. Les problèmes et les tensions rencontrés dans les sables bitumineux, où de multiples grands développements ont été menés dans une période relativement rapprochée et en proximité spatiale les uns des autres semblent avoir été un moteur particulièrement dans ce cas. Le processus d'évaluation environnementale stratégique régionale de l'Alberta et ses pierres d'assises, les processus CEMS et LUPF en sont encore au stade de prototypes, mais il est clair que cette approche sera suivie de près dans les autres régions du pays. Le groupe de travail sur l'évaluation environnementale du Conseil canadien des ministères de l'Environnement établit actuellement des principes similaires et un guide méthodologique des ESSR qui pourrait fort bien trouver des applications plus larges au Canada (Noble et Hartman, 2008a, b) (Noble et Gunn, ce numéro, p. 106).

Dans les deux cas, la justification de l'ESSR est solidement établie en comparant les limites des évaluations environnementales de projet pour ce qui concerne le traitement des effets environnementaux cumulatifs. Les éléments clés du processus proposé par l'Alberta comprennent notamment :

- un énoncé des buts;



Source : ODP, 2005b

l'information sur les fonctions et les pro-  
 priétés des écosystèmes et au recense-  
 ment des menaces et des risques pour la  
 productivité des ressources (même si, à  
 mon avis, il n'est pas à la hauteur dans ce  
 dernier domaine)<sup>4</sup>.

**Évaluation de la durabilité des plans d'aménagement du territoire, Royaume-Uni**

Le Royaume-Uni a un système d'EES multi-niveaux et un régime de dévolu-  
 tion territoriale. Le système comprend  
 l'évaluation des effets des politiques et de  
 la réglementation, l'EES des plans secto-  
 riels et des programmes appliqués  
 conformément à la Directive européenne  
 2001/42/EC, ainsi qu'un processus  
 combiné d'EES et d'évaluation de la  
 durabilité de l'aménagement du terri-  
 toire et des plans spatiaux obligatoires en  
 vertu de la *Planning and Compulsory  
 Purchase Act* (2004). Cette loi respecte  
 aussi les exigences de la Directive euro-  
 péenne et représente un glissement fon-  
 damental vers la planification régionale,  
 ajoutant un niveau supplémentaire de  
 stratégies spatiales régionales (SSR)  
 auxquelles les documents locaux  
 d'urbanismes doivent généralement se  
 conformer. L'orientation globale sur  
 l'évaluation de la durabilité stipule que  
 ce processus doit être appliqué à titre  
 d'élément intégral de la planification  
 locale et régionale et incorpore les  
 notions d'EES, comme les données de  
 base et les effets significatifs, qui s'appli-  
 quent aux considérations sociales, écono-  
 miques et environnementales (ODPM,  
 2005). La Figure 2 présente un schéma  
 de ce processus.

4 Il est également possible que le REEF puisse servir de processus équivalent à l'évaluation environnementale régionale, selon la formulation ambiguë de l'article 16.2 de la *Loi canadienne sur l'évaluation environnementale*. L'article 16.2 ouvre la porte à un rôle discrétionnaire pour les « études régionales » qui pourraient aborder la question des effets cumulatifs en dehors du champ d'application de la Loi, sans toutefois préciser clairement la nature des liens avec l'évaluation environnementale subséquente d'un projet en vertu de la Loi. Dans sa formulation actuelle, l'article 16.2 n'incite pas, ou très peu, une autorité responsable à entreprendre une étude régionale dont les résultats « peuvent être pris en compte » dans la mesure où j'ai pu le déterminer, aucune orientation supplémentaire n'est donnée sur la portée d'une telle approche, comment ses résultats pourraient aider à répondre aux exigences de la Loi et quels processus fédéraux pourraient être considérés comme des instruments appropriés.



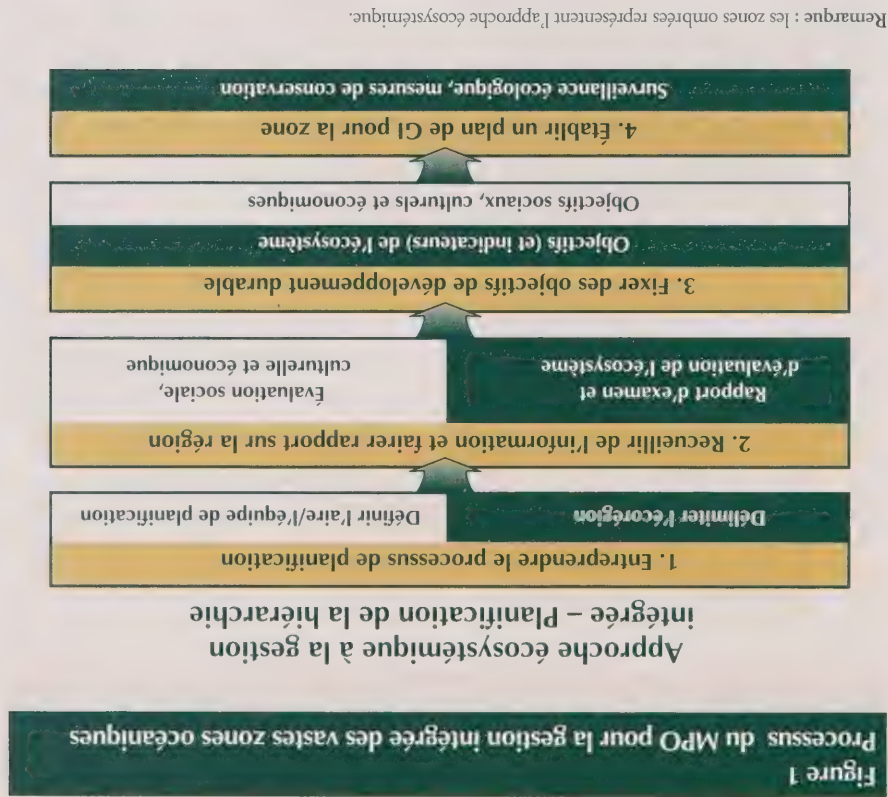
référence pour l'EEE/EBS des effets de programmes ou de projets portant sur les eaux côtières. Le REEB pourrait peut-être devenir ou remplacer les études régionales mentionnées au sens de la formulation ambiguë de l'article 16.2 de la *Loi canadienne d'évaluation environnementale*. Les expériences menées jusqu'ici avec cette approche seront mieux décrites par ceux qui connaissent bien le système, même s'il est probablement juste de dire que les progrès ont été plus faibles qu'on ne l'avait espéré au départ. Les éléments principaux qui jouent en sa faveur sont la vaste couverture géographique, la tentative d'intégrer les objectifs liés aux écosystèmes et les objectifs socio-économiques, l'application du cadre FPEIR reconnu internationalement à la synthèse de

La clé de l'efficacité de cette approche tient à la préparation d'un rapport d'examen et d'évaluation de l'écosystème (REEB) sur l'état des vastes zones de gestion océaniques, incluant les tendances et les modèles d'activité humaine et leurs interactions avec les éléments importants des écosystèmes. Au premier abord, ce processus semble une lacune importante dans les méthodologies actuelles d'évaluation des effets cumulatifs, en appliquant le cadre international de Force motrice-Pression-Etat-Impact-Réponse (FPEIR) à la synthèse de l'information sur les fonctions et les propriétés des écosystèmes et au recensement des menaces et des risques pour la productivité des ressources et la qualité de l'environnement marin. Il promet également de fournir une base de

Au Canada, le processus qui se rapproche le plus de l'exemple australien est celui qui a été mis en place par Pêches et Océans Canada (MPO) pour la gestion intégrée des vastes zones océaniques. Bien qu'il reste encore beaucoup à faire, les bases d'une approche écosystémique de la gestion des océans ont été jetées, à partir d'un cadre spatial hiérarchisé de planification et de prise de décision (Figure 1). Ce cadre comprend une procédure fondée sur le risque pour l'évaluation de la gravité comparative des menaces écologiques. On peut y voir une infrastructure de gestion axée sur l'écosystème qui vise à faire en sorte que la structure (biodiversité), la fonction (productivité) et la qualité de l'eau et de l'habitat) des systèmes marins soient préservées à des échelles temporelles et spatiales appropriées (voir les zones ombrées dans la Figure 1).

## Gestion intégrée des vastes zones océaniques

- la création d'un système de réserves forestières basé sur les principes de caractère complet, adéquat et représentatif;
- la protection des forêts anciennes et des zones sauvages dans le cadre du système de réserves;
- l'engagement envers la gestion écologiquement durable des forêts dans les zones de production forestières;
- l'évaluation régionale complète des enjeux et des effets économiques, sociaux et environnementaux des plans forestiers;
- la préparation de plans à long terme (20 ans) pour la conservation patrimoniale et le développement durable de grands secteurs de forêt naturelle ayant été au cœur de conflits profondément enracinés (voir l'exemple donné à l'encadré 1).



matière d'approches spatiales de la gestion intégrée du développement durable. Par exemple, l'article 3A de l'*Environment Protection and Biodiversity Conservation Act 1999* précise les principes du développement écologiquement durable (DED) qui doivent être pris en compte au moment de décider de l'approbation d'une initiative de développement (artic. 136) et d'entreprendre une évaluation stratégique obligatoire des pêches gérées par le gouvernement fédéral ou destinées à l'exportation (article 146). Le rapport d'évaluation préalable fait partie de l'information utilisée dans la préparation d'un plan statutaire de gestion des pêches, qui doit entre autres certifier qu'une pêche est écologiquement durable. Des exigences similaires touchant l'évaluation et la gestion des pêches au Canada sont urgentes et pourraient hautement improbables.

Les mécanismes intergouvernementaux fédéral/états/territoires) de résolutions des conflits de compétences de longue date et des différends sur les politiques à l'égard des usages et des valeurs en matière de gestion des terres et des ressources pourraient soulever l'attention des Canadiens. Le processus ayant mené à l'Accord sur les forêts régionales constitue peut-être l'exercice d'évaluation et de planification à grande échelle des ressources le plus important réalisé à ce jour en Australie. Il se fonde sur l'énoncé de politique sur les forêts nationales, un cadre coopératif qui fixe les politiques et les objectifs pour les forêts publiques et privées de l'Australie, leurs moyens d'intégration, notamment pour résoudre les différends entre les valeurs et les usages de conservation et de développement, ainsi que les rôles et les responsabilités dévolues respectivement au gouvernement fédéral et aux États.

Les principes et les éléments clés de l'approche visant l'application de cet énoncé de politique aux grandes forêts naturelles sont présentés :

peuvent être d'un intérêt plus général pour les praticiens des approches spatiales de la gestion intégrée.

**Australie : expérience touchant particulièrement le processus d'accord sur les forêts régionales**

Au cours de la dernière décennie, plusieurs développements juridiques et politiques sont survenus en Australie en

À quelques détails près, un processus ARF similaire a été suivi dans chaque secteur : détermination de la portée, évaluation, intégration et conclusion de l'accord. On peut citer le processus ARF pour la région des Victorian Central Highlands, une zone d'environ 1,1 millions d'hectares (dont 56 % de terres publiques). Une évaluation régionale complète (ERC) des enjeux environnementaux, culturels, économiques et sociaux de la région a été effectuée, incluant des évaluations relatives à la biodiversité, aux forêts anciennes, à la faune, aux richesses nationales, au patrimoine mondial et à la gestion écologiquement durable des forêts (CEDF). Le rapport de l'évaluation régionale complète, soumis à la consultation publique en juillet 1997, se comparait par son étendue et son ampleur à un énoncé des effets dans un processus EIE conventionnel et était soutenu par différents rapports techniques.

L'accord a permis d'augmenter de 116 000 ha (64 %) la superficie du système de réserves de conservation dans la région et près de la moitié des terres publiques de la région font maintenant partie d'un parc national ou d'autres réserves. Le système de réserves répond aux critères nationaux sur la biodiversité, les forêts anciennes et la faune. Les avantages pour l'industrie comprennent une plus grande sécurité d'approvisionnement en termes d'accès à la forêt et d'incitation financière au développement de l'industrie. Les avantages sociaux comprennent la possibilité de création de 300 emplois.

Source : Ashe (2002).

**Encadré 1**  
**Processus d'accord régional sur les forêts (ARF),**  
**Central Highlands, Victoria, Australie**



**Profil des expériences canadiennes et internationales en approches spatiales de la gestion intégrée**

Comme on a pu le constater ci-dessus, les défis de politique, de gouvernance et de méthodologie de l'application des approches spatiales de la gestion intégrée au développement durable sont considérables mais nullement insurmontables. L'expérience canadienne et internationale à cet égard a beaucoup à offrir. Il est particulièrement instructif d'examiner les exemples d'utilisation d'une approche

chacune des étapes génériques d'un processus d'approches spatiales de la gestion intégrée pour assurer le caractère durable de la planification et de la prise de décision. De nouveaux ensembles et livres Web d'outils et de méthodes se publient constamment, notamment dans l'Union européenne, qui a commandé plusieurs projets visant à faire progresser la science et la méthodologie de l'analyse intégrée de la durabilité (van Herwijnen et de Ridder, 2007; Weaver *et al.*, 2007).

Source : adapté et modifié de Bonvoisin *et al.* (2006).

Activités clés	Exemples d'outils utilisés ou pouvant l'être
Clarifier les besoins, la portée et le contexte de l'analyse	<ul style="list-style-type: none"><li>• Analyse et cartographie des politiques</li><li>• Cartographie de la vulnérabilité</li><li>• Analyse des données de base et des tendances</li><li>• Recensement et engagement des intervenants</li></ul>
Déterminer les enjeux et les effets	<ul style="list-style-type: none"><li>• EEE/EES</li><li>• Évaluation des effets sociaux et des effets sur la santé</li><li>• Analyse économique</li><li>• Méthodes participatives</li></ul>
Élaborer et comparer les solutions de rechange	<ul style="list-style-type: none"><li>• Analyse multi-critères</li><li>• Analyse coût/avantages</li><li>• Évaluation comparative des risques</li><li>• Modélisation et scénarios</li></ul>
Recensement des options les plus pratiques en matière de durabilité et en évaluer l'importance	<ul style="list-style-type: none"><li>• Atténuation et adaptation</li><li>• Tests de seuil</li><li>• Matrices d'échanges</li><li>• Analyse de compatibilité des politiques</li></ul>
Suivi des effets et évaluation des résultats	<ul style="list-style-type: none"><li>• Suivi des enjeux</li><li>• Surveillance des tendances</li><li>• Optimisation et vérification des résultats</li><li>• Évaluation des politiques</li></ul>

**Tableau 2**  
Appariement des outils et des tâches en évaluation intégrée de la durabilité

• Appliquer une approche intégrative, comme l'analyse multi-critères, ou une approche de simulation des effets cumulatifs sur le paysage, comme le fait l'Alberta avec le système ALCES. Les approches modulaires présentées ci-dessus se chevauchent; elles ne sont pas mutuellement exclusives et peuvent se combiner de différentes façons, peut-être en procédant par étapes et en se déplaçant le long du continuum depuis l'intégration partielle jusqu'à l'intégration complète. Selon le contexte spatial et politique, la capacité d'analyse de la durabilité peut être établie graduellement, s'appuyant sur des procédures ou des outils éprouvés utilisés couramment dans l'évaluation des effets économiques, environnementaux et sociaux ou sur une base expérimentale à l'aide de nouvelles méthodologies intégratives interdisciplinaires, comme les MGIP. À titre de plateforme initiale, il existe déjà une expérience considérable de l'intégration des analyses sociales et, dans une moindre mesure, des analyses économiques dans les EES et les évaluations des effets sur l'environnement au moyen d'un ensemble de méthodes analytiques et participatives. Cette formule d'évaluation plus intégrée peut être soit incorporée aux applications de modélisation ou les alimenter.

Il faut une trousse d'outils à cette fin. Aucune procédure ou méthode individuelle, aussi polyvalente soit-elle, ne peut suffire à recouvrir totalement la portée multidimensionnelle de l'évaluation de la durabilité. À cet égard, on doit porter une attention particulière aux seuils critiques et aux critères d'évaluation de l'importance des effets des options de planification. Le tableau 2 présente des exemples de différents types d'outils, depuis les techniques d'évaluation simples et rapides jusqu'aux méthodes informatiques pouvant être utilisées à

- Conduire des évaluations parallèles, prédéterminées, comme dans le modèle australien.
  - Utiliser une procédure institutionnalisée, comme l'EES, en greffant des analyses économiques et sociales sur le cadre d'analyse principal, comme dans le régime en vigueur au Royaume-Uni.
  - Utiliser une procédure institutionnalisée, comme l'EES, en greffant des analyses économiques et sociales sur le cadre d'analyse principal, comme dans le régime en vigueur au Royaume-Uni.
- Du point de vue méthodologique, le défi consiste à savoir comment entreprendre une évaluation de la durabilité dans le contexte des approches spatiales de la gestion intégrée; quels sont les procédures et les outils analytiques qui fonctionneront dans ce contexte de planification? Il existe au sens large trois points d'accès principaux.

pratique, une approche robuste dépendra de l'existence d'un certain nombre de conditions habituelles, notamment un processus clair de détermination des priorités, la mise en œuvre des engagements pris dans le cadre des stratégies ministérielles de développement durable et des mécanismes de coordination dans l'ensemble du gouvernement.

Malgré certains progrès sur ces questions, le rapport du Commissaire à l'environnement et au développement durable (CEDD, 2005, 2008) recense des faiblesses importantes qui persistent depuis plus d'une décennie. En 2005, le commissaire a entre autres noté que la qualité du troisième cycle de stratégies ministérielles varierait fortement, que la mise en œuvre des engagements était insatisfaisante et que la direction d'en-semble en matière d'établissement des priorités et de coordination des stratégies était insuffisante (CEDD, 2005). Ces problèmes existent toujours et n'ont en général pas été abordés dans les plus récentes stratégies des ministères ou dans les orientations générales qui président à leur préparation. Il en résulte que la plupart des stratégies ne constituent pas des plans formels de développement durable et ne reflètent pas non plus une évaluation rigoureuse de l'effet des politiques et des programmes ministériels sur le développement durable (CEDD, 2008). Bref, le collage de stratégies fédérales de développement durable constitue un cadre de politique peu cohérent ou unifié. Etat fédéral, le Canada présente un

environnementaux et sociaux et d'explorer différents résultats de politique et de gestion. Cette méthodologie, appelée modèles de gestion intégrée du paysage (MGIP), est aussi proposée comme moyen permettant d'établir un processus plus cohérent, rigoureux et scientifique-ment défendable d'évaluation environ-nementale stratégique (EES) des politiques, plans et programmes proposés. Elle s'applique aussi à l'évaluation des grands projets susceptibles de présen-ter des effets cumulatifs importants. Malgré leur potentiel reconnus dans ces domaines, les MGIP ne sont pas encore très largement utilisés au Canada, qui apparemment n'a pas les capacités néces-saires à l'adoption de cette approche (PRP, 2005b).

### Défis liés aux approches spatiales de la gestion intégrée

La modélisation de la gestion intégrée du paysage et les autres approches spatiales de la gestion intégrée au Canada sont encore en évolution comme outils de planification du développement dura-ble. Leur rôle à titre de processus d'éva-luation de la durabilité rel qu'indiqué ci-dessus est ouvert à différentes hypo-thèses, mais à première vue les approches spatiales de la gestion intégrée sont lar-gement équivalentes, particulièrement en ce qui a trait à l'analyse des interac-tions à grande échelle et des interdépen-dances entre les buts et les considérations économiques, environnementales et sociales. On peut s'interroger d'avantage sur la mesure dans laquelle l'analyse inté-grative est entreprise dans les limites d'un cadre de durabilité ou contre celui-ci, c'est-à-dire pour tester l'importance des effets recensés. En principe, malgré les lacunes et les insuffisances, les poli-tiques fédérales de développement dura-ble devraient offrir un cadre « suffisant » pour entreprendre une évaluation de la durabilité dans les limites décrites. En



**Tableau 1**  
Dimensions spatiales des types d'approches en évaluation de la durabilité

Paradigme/Stade	Degré relatif d'utilisation et exemples d'outils ASCI
<ul style="list-style-type: none"> <li>• Évaluation des effets de propositions particulières</li> </ul>	<ul style="list-style-type: none"> <li>• Modéré; EES, évaluation des effets cumulatifs</li> </ul>
<ul style="list-style-type: none"> <li>• Applications de planification stratégique basées sur les terres et les ressources</li> </ul>	<ul style="list-style-type: none"> <li>• Élevé; plans d'aménagement régionaux et locaux, stratégies intégrées de gestion des bassins versants, des zones côtières ou des océans, certains aspects des stratégies nationales de durabilité</li> </ul>
<ul style="list-style-type: none"> <li>• Systèmes comptables</li> </ul>	<ul style="list-style-type: none"> <li>• Faible – modéré; certains systèmes et outils ont des dimensions spatiales, par exemple l'évaluation du bien-être et l'analyse de l'empreinte écologique</li> </ul>

- les systèmes comptables qui évaluent la progression vers ou à l'encontre de la durabilité à l'échelle des sociétés, des pays ou des secteurs d'activité.
- Conformément au Tableau 1, les cadres et les outils relatifs aux approches spatiales de la gestion intégrée sont applicables à tous les paliers. Ils trouvent leur expression la plus visible dans les processus à grande échelle d'aménagement du territoire et de gestion des ressources qui permettent l'intégration spatiale et environnementale d'options et d'activités concurrentes et qui facilitent la réconciliation des secteurs et l'ajustement des intérêts différents par l'engagement et l'interaction des parties intéressées. Dans ce contexte, le RRP (2004, 2005a) a mis en lumière le potentiel des modèles analytiques basés sur les systèmes d'information géographique (SIG) qui offrent un ensemble d'applications intégratives, comme le recensement des interactions et des effets cumulatifs des solutions possibles d'utilisation des terres et de développement des ressources afin d'en évaluer les compromis économiques,

De ce point de vue, le potentiel des approches spatiales de la gestion intégrée est discuté en termes de leur potentiel comme outil ex ante d'évaluation de la durabilité.

### Termes et notions

Bien que les termes « développé ment durable » et « durabilité » soient couramment utilisés dans le vocabulaire politique, il y a remarquablement peu de consensus sur ce qu'ils signifient dans le contexte de la prise de décision au quotidien. Pour les fins du présent document, ces notions et d'autres sont définies dans l'encadré 1. En bref, le développement durable renvoie à une orientation et à un processus de changement continu, alors que la durabilité renvoie à une situation ou à un état à un moment ou dans un lieu précis. L'évaluation de la durabilité est le processus permettant d'estimer la progression vers ou à partir d'un point de référence comportant deux éléments essentiels : une analyse intégrée des effets économiques, environnementaux et sociaux des propositions ou des mesures de développement et une évaluation de leur importance face aux buts de politique ou aux critères de développement durable. Dans ce contexte, une approche intégrée aura les dimensions suivantes : intégration substantielle des différents types d'effets; intégration procédurale des mesures analytiques et consultatives à des moments clés du processus; et intégration politique des constats dans la prise de décision et la mise en œuvre. Les approches spatiales ou fondées sur des lieux comprennent un ensemble distinct d'outils d'analyse et de planification pour la gestion intégrée et durable des terres et des ressources dans une zone géographique ou un écosystème définis.

### Cadre de référence

- L'évaluation des effets et les méthodes complexes d'évaluation qui traitent des effets et des conséquences d'options et de propositions d'action particulières en matière de développement;
- la planification stratégique et la gestion intégrée, qui établissent des orientations et allouent les ressources dans un secteur ou un cadre spatial prédéterminé;

3 Ce document s'appuie notamment sur les travaux entrepris conjointement avec Barry Dalal-Clayton à l'Institut international pour l'environnement et le développement. Les autres sources comprennent la République tchèque (2005) et Sadler (2009).

La notion et les principes du développement durable sont maintenan-  
ment ancrés dans le droit international  
et les politiques internationales, et les  
lois et stratégies canadiennes y font lar-  
gement référence. Pourtant, leur applica-  
tion pratique continue de poser des défis  
importants, incluant comment évaluer  
les effets des tendances, des mesures et  
des options de développement du point  
de vue de la durabilité – en bref, l'évalua-  
tion de la durabilité. Dans le sens où  
nous l'entendons ici, l'évaluation de la  
durabilité est un processus générique  
qui peut être entrepris de façon formelle  
ou informelle dans un cadre de poli-  
tique, de planification, de règlementa-  
tion et d'évaluation. Idéalement, une  
approche plurale, « pangouvernementale » est requise pour mettre en lumière  
tous les choix faits et les gestes posés par  
des organismes fédéraux et qui sont sus-  
ceptibles d'avoir une incidence sur la  
prestation du développement durable.

## Contexte

- explorer les possibilités et les défis  
d'aller de l'avant avec la conception  
d'un processus d'approches spatiales  
de la gestion intégrée, en terminant  
par quelques observations (sans  
aucun doute naïves) sur les perspec-  
tives de leur adoption par le gouver-  
nement fédéral.
- recenser un certain nombre de pro-  
cessus similaires aux approches spa-  
tiales de la gestion intégrée, mis en  
œuvre au Canada et à l'étranger, dont  
l'expérience a été prometteuse et qui  
pourrait avoir des applications plus  
larges;
- des approches stratégiques de l'éva-  
luation de la durabilité des pro-  
positions et des mesures de  
développement;

Le présent document décrit brièvement  
certains aspects et exemples de l'expé-  
rience internationale des approches spa-  
tiales de la gestion intégrée dans le cadre  
plus large d'une convergence des ten-  
dances et des développements vers un  
processus mieux intégré et orienté sur la

- examiner le rôle et la portée des  
approches spatiales de la gestion inté-  
grée dans une classification élargie  
et de l'évaluation des politiques<sup>3</sup>. Il y a  
cela trois objectifs principaux :

Les **approches spatiales** sont un groupe unique d'outils et de processus de pla-  
nification pour la gestion des terres et des eaux dans une zone ou une région géo-  
graphique définie. Elles sont particulièrement utiles pour donner effet à une  
évaluation de la durabilité localisée à l'échelle du paysage et dans un cadre d'éco-  
système réunissant des usages multiples et des responsabilités divisées, dans le  
but d'en assurer l'intégration spatiale et environnementale avec les possibilités et  
les contraintes de la base de ressources.

Les **approches intégrées** sont largement considérées indispensables dans tout pro-  
cessus d'évaluation de la durabilité. Elles présentent des caractéristiques substan-  
tives et procédurales, c'est-à-dire une analyse intégrée des effets économiques,  
environnementaux et sociaux et des répercussions sur la durabilité des actions  
et des options ainsi que la coordination des procédures, des méthodes et des outils  
de synthèse de l'information à l'appui de la prise de décision.

L'**évaluation de la durabilité** est le processus ou l'action d'évaluer les effets d'une  
tendance, d'une proposition ou d'une activité de développement en utilisant un  
cadre comme celui décrit à la page suivante. Dans l'évaluation des politiques,  
ce processus peut être utilisé ex post ou ex ante et toutes ces déterminations sont  
hautement approximatives, présentées par exemple comme une progression  
vers des buts ou des critères définis (ou à partir de tels buts ou critères).

La **durabilité** est une qualité ou une condition d'une voie ou d'un processus de  
développement pouvant être maintenu indéfiniment selon les orientations  
décrites à la page suivante. Elle ne peut être analysée de façon subjective qu'à l'en-  
contre d'un ensemble de valeurs normatives ou d'un cadre accepté de principes  
ou de critères de développement durable.

Le **développement durable** est un processus de changements socio-économiques  
et biophysiques positifs ou de création de richesse (capital) qui répond aux  
besoins de toutes les personnes et qui peut être maintenu indéfiniment sans miner  
les systèmes naturels dont il dépend ou diminuer la gamme de possibilités  
offertes aux générations futures. C'est une démarche d'adaptation continue à  
l'évolution des réalités économiques, environnementales et sociales. En termes  
d'élaboration des politiques, il s'agit de planifier ou de se débrouiller pour attein-  
dre un cheminement de transition dans un système en constante évolution.



Le défi de l'intégration des considérations économiques, environnementales et sociales à tous les paliers de la prise de décision se situe au cœur de l'élaboration d'approches pratiques pour l'avancement du programme fédéral de développement durable. Il fait l'objet de documents nombreux et diversifiés incluant des cadres, des mesures et des outils permettant d'effectuer des analyses intégrées centrées sur le caractère durable d'un vaste éventail d'enjeux allant des risques globaux à l'incidence des propositions particulières. Il reste encore beaucoup à faire pour raffiner et appliquer ces approches et les intégrer dans l'élaboration des politiques publiques au Canada. Au sein du gouvernement fédéral, plusieurs mécanismes et moyens sont en place pour permettre

# Approches spatiales de la gestion intégrée pour un développement durable

L'adoption d'une approche intégrée, mais elles restent inutilisées ou sous-utilisées, confrontées à une culture traditionnelle d'élaboration de la politique publique et

à une structure de gouvernance basée sur la spécialisation sectorielle et fonctionnelle (Meadowcroft et Bregha, 2009). Ces éléments fondamentaux sont résistants à toute réforme et persisteront probablement à court et à moyen terme. Entre temps, d'autres progrès peuvent être réalisés en mobilisant les cadres, les notions et les outils disponibles ou facilement accessibles et en les accentuant ou en faisant un meilleur usage à titre de vecteurs des changements graduels et instrumentaux, pour transposer des approches plus stratégiques et intégratives dans le courant traditionnel de l'élaboration des politiques fédérales. Les instruments de politique en place qui constituent un mandat pour l'intégration et le soutien de la prestation du développement durable sont entre autres l'évaluation environnementale, la planification de l'aménagement du territoire et de l'utilisation des ressources et les stratégies ministérielles de développement. C'est ainsi par exemple que le Projet de recherche sur les politiques (PRP) a recensé la gestion intégrée des terres et des eaux parmi les « nouveaux paradigmes » susceptibles de permettre l'optimisation des résultats économiques, sociaux et environnementaux à l'échelle de la région ou du paysage et examiner de quelle façon le gouvernement fédéral peut utiliser ses outils et ses processus dans l'élaboration des politiques. Récemment, le PRP, en collaboration avec plusieurs organismes fédéraux, a organisé un atelier sur les notions et les éléments des approches spatiales de la gestion intégrée et leur application potentielle au sein du gouvernement fédéral.

- 1 Une première version de ce document a été préparée à titre de note contextuelle pour l'atelier du PRP tenu à Ottawa le 31 mars 2009.
- 2 Pour mettre les choses au point, les prémisses et le point de vue proposés ici sont ceux d'une

personne de l'extérieur du gouvernement mais qui a une certaine expérience de son fonctionnement par le biais d'affections en détachement et en services conseils. À partir de ces données que j'admets limitées, je conclus que le degré de changement nécessaire pour s'attaquer aux considérations et enjeux pressants de durabilité est peu susceptible de se produire pour des raisons institutionnelles autant que politiques au Canada, quelle que soit la couleur du parti au pouvoir. Bien entendu, le gouvernement du Canada est loin d'être le seul dans cette position.

## Références

- résolues. Le succès vint lorsque tous les collaborateurs potentiels devinrent convaincus de l'importance de l'enjeu. Aujourd'hui les connaissances nouvelles en matière environnementale, le caractère dramatique des questions du développement durable, la mobilité des investissements et la vitesse de circulation de l'information posent le problème du développement territorial à une nouvelle échelle : il faut agir de manière plus anticipatoire, plus concertée et avec une perspective d'intérêt général : l'amplitude de l'enjeu doit faire dépasser les intérêts à court terme. L'humain l'a déjà réussi avant. Il a déjà réalisé plusieurs « utopies »... lorsqu'il y a mis le prix. ●
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passé du niveau fédéral et des états à celui des organisations locales et des bassins versants (Lemos *et al.*, 2004 : 212-37). En Colombie-Britannique, l'évaluation intégrée participative de la gestion de l'eau et des changements climatiques dans le bassin de l'okanagan (EIP) se fonde sur une collaboration et un effort interdisciplinaire qui regroupent des universités, des agences du gouvernement et des partenaires locaux (Britzikova, 2009). Le Département de l'écologie de l'État de Washington pour répondre aux besoins en eau de la population, des industries et autres secteurs a mis en place une approche de gestion intégrée du bassin versant de Yakima (État de Washington, 2008).

Au Québec, la Politique nationale de l'eau crée 33 organismes de bassin versants (OBV) sur des rivières prioritaires. Des subventions de support les aident dans leurs efforts de concertation sur des objectifs locaux spécifiques. Un soutien est aussi donné à leur fédération. Une table interministérielle sur la politique nationale de l'eau, coordonnée par le ministère du Développement durable, de l'Environnement et des Parcs (MDDEP) regroupe 12 ministères ou organismes (Gouvernement du Québec, 2007).

Au gouvernement du Canada beaucoup d'institutions se fondent sur la forte complémentarité des approches d'intégration horizontale des politiques environnementales et d'intégration verticale (HEPI et VEPI). Parmi ses mesures de type horizontal, le Canada a notamment créé le poste de commissaire pour l'environnement et le développement durable (CESD/CEDD) et la table ronde nationale sur l'environnement et l'économie (NRTÉE/TRNÉE) qui implique aussi la société civile et est considérée comme

La collaboration au niveau territorial présente certains défis particulièrement difficiles du point de vue de la collaboration. Le développement et la gestion des projets territoriaux peut sembler difficile car, puisqu'ils sont en général proches de la vie concrète des citoyens, ils deviennent facilement sujets à controverses de diverses natures. Cependant la littérature regorge d'exemples de réussites dans ces domaines.

Le développement et la gestion des projets territoriaux présentent aussi des avantages de concrétisation et de mobilisation qui lui sont uniques : la plupart des acteurs vivent proches des sites considérés et recherchant des solutions satisfaisantes, ils ne sont pas indifférents au rythme de travail non plus qu'aux résultats obtenus. Il faut donner le temps à ces projets d'accéder à une certaine maturité avant de juger de leur destin : les difficultés d'ajustement à l'origine des projets sont tout à fait normales.

La question de la coopération entre les humains s'est toujours posée, cela dans tous types d'organisations et dans tous types de domaines : les difficultés de cette coopération ne furent pas toujours

importantes, la collaboration entre les milieux, avec les provinces et entre eux (voir, par exemple, le rapport de Bakvis 19). Les divers ministères ont des dispositifs formels de concertation avec les importations au pays (Cohen, 2007 : 18-19). Les divers ministères ont des dispositifs formels de concertation avec les milieux, avec les provinces et entre eux (voir, par exemple, le rapport de Bakvis et Juillet paru en 2004).

Des initiatives pluri ministérielles existent depuis longtemps, par exemple le Plan d'action du Saint-Laurent (voir dans Bourgault, 2002, le chapitre signé par Gilles Cortiveau, pp. 79-100). Il en va de même pour les divers conseils de conservation de sites, d'aires protégées, etc. Notons aussi le cas de l'Australie avec l'adoption d'une approche régionale dans la gestion des ressources naturelles (NRM) avec un changement dans le système de gestion et de financement des programmes (« Natural Heritage Trust », « National Land-care Program » et « National Action Plan for Salinity and Water Quality ») (Paton *et al.*, 2004 : 259-267; Dover, 2001).

**Conclusion : une utopie?**

Plusieurs exemples éloquentes témoignent de réussite en matière de collaboration pour l'atteinte d'objectifs environnementaux jugés prioritaires. Lorsque les principaux intervenants auront décidé de faire du développement durable une priorité suffisamment importante, la collaboration entre les

- Dans le cas des projets territoriaux, il apparaît que plusieurs approches peuvent être combinées :**
- par exemple, la gouvernance collaborative**
- active pour mettre à contribution les groupes et citoyens, le pontage pour arriver le projet aux initiatives locales, la gestion corporative pour bien coordonner les interventions de chaque palier, l'intégration opérationnelle pour favoriser le maximum d'efficacité et d'efficience dans l'opération des projets.**

chaque palier, l'intégration opérationnelle pour favoriser le maximum d'efficacité et d'efficience dans l'opération des projets (Ansell *et al.*, 2008 : 543-571).

## Quelques réalisations marquées

### géographiquement

Plusieurs initiatives horizontales ont bien réussi alors qu'elles portaient une estampe géographique, telles le Plan d'action Saint-Laurent, le projet Québec maritime, l'initiative Forêt modèle en Gaspésie, le projet du Parc Marin du Saguenay-Saint-Laurent, la Stratégie d'action fédérale pour le Grand Montréal, les centres de perfectionnement régionaux pour les fonctionnaires ainsi que les autres services d'appui partagés localement, le Conseil des organismes fédéraux de l'Estrie, etc. Parmi ces projets certains sont exclusivement menés par le gouvernement fédéral au niveau local, d'autres impliquent plusieurs organismes du gouvernement fédéral, d'autres enfin impliquent divers paliers gouvernementaux, des entreprises et des citoyens (Bourgault *et al.*, 2002).

## Des réalisations en matière environnementale selon les échelles de territoire : du national aux Integrated Landscape Management (intégration territoriale)

Un relevé très partiel de la littérature documente un nombre élevé d'initiativess très variées dans ce domaine. Les exemples qui suivent ne servent qu'à illustrer certains succès réalisés. La littérature parcourue ne définit pas strictement le concept de succès. Cependant,

notre compréhension des textes nous fait considérer comme « succès » la réalisation de deux conditions : l'atteinte jugée suffisante des buts écologiques et cela grâce à la contribution d'un mécanisme de gouvernance horizontale qui a raisonnablement bien fonctionné selon le témoignage des parties prenantes. Il convient de poser ici un jugement relationviste de ces situations : tous les projets ne prédisent pas tous leurs objectifs de manière quantifiée; des aspects nouveaux d'objectifs apparaissent durant les projets. Dans quelques domaines, rares sont les projets qui atteignent tous leurs objectifs à 100 % et non plus que l'on ne peut satisfaire une infinité d'acteurs à 100 %. » (Koonz et Thomas, 2006 : 111-121). La liste complète de ces « succès » s'avérerait impossible à dresser.

La longue tradition suédoise de coopération en environnement a permis au gouvernement Persson (1996) d'annoncer une *société écologiquement durable*. Comment? En misant sur la croissance et une gestion responsable des ressources et en mariant écologie, économie et emploi. Après le « welfare state » il proposait le « green welfare state » (cf. notamment : *Delegation for Ecologically Sustainable Development* composé des ministres de l'Environnement, de l'Agriculture, de la Taxation, de l'Éducation « de base » et du ministre junior du Travail; *Sustainability Investment Program* qui comprend le *Local Investment Programs* géré par le *Ministry Unit for Ecological Transformation and Development*) (Lundqvist, 2001 : 319-337).

Aux Pays-Bas, le modèle de gestion (modèle Rotmans-Kemp) veut intégrer le développement durable dans les politiques du gouvernement néerlandais. Le défi est de montrer comment la transition vers le DD peut s'accomplir. La participation des acteurs de la société civile et du secteur privé est considérée comme très importante. On cherche à privilégier des innovations systémiques comme approche d'élaboration des politiques publiques (Kemp *et al.*, 2005 : 12-30)

Les *Integrated Landscape Management Projects* réfèrent en général à des entreprised'aménagement, de protection et de gestion d'écosystèmes. Ils se concentrent sur des zones géographiques délimitées (bassin versants ou autre) au sein d'une juridiction donnée (Bizikova, 2009). Plusieurs exemples nord américains de ces initiatives intégrées en matière territoriale ont été recensés : elles impliquent des États américains, des provinces au Canada ou des regroupements de ceux-ci. Ce fut le cas en août 2001 avec le plan d'action sur les changements climatiques (Bramley, 2002: 16-24). La Commission mondiale sur les barrages (WCD) constitue un autre exemple de résolution de conflit et de formulation de politiques publiques globales dans un processus partenarial, et dans lequel la parité et le respect des identités organisationnelles sont essentiels à la réussite (Brinkerhoff, 2000 : 324-336).

Les organismes de bassin versant constituent un exemple éloquent des succès en ces matières de conciliation environnement-économie-société : on a documenté des cas au Brésil, en Australie, en Europe, en Afrique, aux États-Unis et au Canada; bref, dans presque tous les continents et sous tous les types de régimes politiques et dans tous types de traditions sociales.

Au Brésil, le gouvernement a mis en place un système de management participatif des bassins versants et crée une commission d'utilisateurs, un comité de gestion des bassins versants qui favorise la collaboration avec l'État et des représentants de la société civile (capacité du réseau et des acteurs à diffuser le débat lorsqu'il y a divergence de vues). Le pouvoir relatif à la gestion de l'eau est



## Les relevés de littérature montrent que plusieurs dispositifs horizontaux sont possibles

L'intégration opérationnelle implique le détachement et la mise en commun de ressources financières et humaines autour de certains buts opérationnels précis et pour un certain temps. Par exemple, le Centre intégré d'évaluation de la menace regroupe à Ottawa 13 agences et ministères gouvernementaux (dont deux de provinces) pour produire des évaluations sur une base constante (Bourgault *et al.*, 2008).

La gestion corporative fait regrouper autour d'un plan commun, le plan corporatif, la perspective, les ressources et la coordination. Dirigé depuis le sommet, il se décline en agendas et comporte des actions de renforcement et d'apprentissage pour que l'autorité cède le pas à une culture commune. Cette pratique est indiquée pour des initiatives au sein d'un seul palier gouvernemental (Bourgault,

2007). L'approche **Joined Up Government** (JUG), comme variante de la gestion corporative, prend la forme de directives du Cabinet (et lettres de mandat du Premier ministre), pour favoriser le partage de perspectives et le travail en commun. (G. R., 2004; Ling, 2002 : 623)

Le développement de politiques intégrées relève de la gestion corporative mais à plus petite échelle : on ne touche que deux ou trois secteurs. De plus il en diffère du fait que la mise en commun n'est pas imposée ni coordonnée par le sommet, mais vient des organismes participants. En ce sens, se faisant d'abord consensuelle, elle reste plus fragile (Aoki, 1986; Ross et Dovers, 2008).

tion qui correspond mieux aux intérêts des individus ou aux rapports de force sur place.

Les conflits entre les paliers de gouvernement connaissent une abondante documentation en matière de projets territoriaux : les politiques d'un niveau de gouvernement entrent en conflit avec celles de l'autre palier (ressources naturelles, agriculture, aménagement du territoire, transports, environnement, etc.). Un palier veut montrer sa suprématie d'expertise, sa meilleure légitimité, sa plus grande utilité, sa plus grande capacité d'écoute, etc. (Heller, 2001 : 132, 133 et 136)

Ils s'inscrivent aussi dans le cadre de conflits locaux dont ils manifestent un épisode récent : le projet peut alimenter des conflits entre entrepreneurs dans une région, peut servir à nourrir des querelles politiques locales, etc.

## Les initiatives horizontales

Les modes de gestion horizontale, appelés aussi gestion transversale, apparaissent au fil des besoins et ne suivent pas un modèle unique. Il arrive qu'un même projet soit l'occasion de production de plusieurs arrangements horizontaux en même temps. Par exemple, imaginons qu'un projet rassemble des gouvernements et des groupes de la société civile ainsi que des citoyens dans un même arrangement de gestion horizontale. Dans ce cas, il est possible que des regroupements de citoyens aient lieu pour organiser leur participation à ce projet. Il est aussi probable que chaque palier gouvernemental coordonnera sa propre approche et que des arrangements entre deux ou plusieurs organismes surviennent. Voyons d'abord l'éventail de ces mécanismes de coopération.

Les **Forums centrés sur l'action** permettent de rechercher la collaboration au-delà du gouvernement initiateur ou de la communauté initiatrice. Cette approche cherche à produire et partager de l'information pour influencer les décideurs publics et les faire s'engager dans une perspective et un projet (Lahey *et al.*, 2002 : 21).

La **Méthode ouverte de coordination** veut faire adopter des objectifs communs à des acteurs organisationnels et les inciter à les réaliser par la force de l'influence et de la diffusion publique des résultats. Elle n'implique pas nécessairement la coopération organisationnelle. <[http://europ.europa.eu/scadplus/glossary/open\\_method\\_coordination\\_fr.htm](http://europ.europa.eu/scadplus/glossary/open_method_coordination_fr.htm)>

La **Gouvernance collaborative** implique la consultation des citoyens, groupes locaux et instances politiques locales allant jusqu'à la conception commune des projets ainsi que la surveillance conjointe de leur réalisation (Hirst, 2000 : 146-148). Dans le cas des projets territoriaux, il apparaît que plusieurs approches peuvent être combinées : par exemple, la gouvernance collaborative pour mettre à contribution les groupes et citoyens, le pontage pour arrimer le projet aux initiatives locales, la gestion corporative pour bien coordonner les interventions de

forte diversité de types d'acteurs et d'in-

térêts. Ces acteurs manifestent des atti-

tudes et comportements fort diversifiés.

Les acteurs gouvernementaux tendent à

lutter pour afficher leur capacité (exclu-

sivité) juridictionnelle, leur savoir-faire et

démontrer leur utilité aux citoyens. À

l'occasion ils s'affrontent sur ces terrains

et les projets connaissent un développe-

ment sous-optimal lorsqu'ils avancent

(Ross et Dovers, 2008 : 255)

Des organismes sans but lucratif (OSBL)

sont formés autour de « causes » locales

ou régionales, pour la protection de bas-

sin, de rivières ou de milieux naturels.

De tels organismes existent aussi au

niveau national pour des causes plus

vastes qui s'expriment à l'occasion d'un

cas plus local. Les groupes ne se manifeste-

rent pas toujours dans le même sens : ils

portent des intérêts qui ne se superpo-

sent pas toujours parfaitement ou encore

leur stratégie diffère suivant qu'on est

une organisation locale ou nationale.

Les citoyens peuvent se sentir directe-

ment interpellés par les projets territo-

riaux ou par le besoin de les développer

pour corriger une situation. Les citoyens

ne forment pas toujours un bloc uni et

prévisible : des factions de citoyens s'aff-

frontent au nom d'intérêts économiques,

politiques et sociaux ou encore du fait de

quérelles anciennes.

## Les enjeux des projets

### territoriaux

Les projets territoriaux peuvent donner lieu à des conflits de perspectives : au niveau national on souhaite telle chose en raison d'une politique nationale ou pour des raisons de politique interne (éviter de créer un précédent, traduire le rapport de forces au sein d'un ministère ou entre deux ministères), tandis qu'au niveau local on souhaite telle autre solu-

Ces mécanismes inclus :

• Négociation interministérielle

• Négociations entre paliers gouverne-

mentaux

• Coordination par hiérarchie (autori-

sations)

• Coordination par l'argent (subven-

tions)

• Coordination par l'autorité (agréga-

tions)

Bien vite est apparue l'insuffisance de ces

dispositifs lorsqu'ils s'avèrent efficaces.

Il fallait trouver comment favoriser une

collaboration plus « résolue ». Il a fallu

accroître l'intensité de cette collaboration

entre les acteurs. On a recherché une

meilleure intégration des actions origi-

nant de hiérarchies diversifiées.

Cette volonté d'intégration se manifeste

par diverses dimensions de la gestion

horizontale, allant de l'intégration opéra-

tionnelle totale, à la gouvernance colla-

borative en passant par des partenariats

actifs qui sont plus ou moins formalisés

(Bourgault, 2002). La gestion horizon-

tale favorise des réponses plus adéquates,

économiques, efficaces et rapides aux

problèmes requérant la coopération

d'une diversité d'intervenants. Ce fai-

sant elle accroît la légitimité de l'action

gouvernementale. La gestion horizon-

tale comporte aussi ses inconvénients :

notamment, elle requiert du temps, une

nouvelle culture de coopération et elle

rend l'imputabilité verticale plus difficile

Les projets de développement et les

enjeux écologiques qui se situent au

niveau territorial mettent en œuvre une

### Les acteurs

à établir.

*durable* comme concept portant une

approche plus holistique pour favoriser la

protection de l'environnement : il ne

s'agit plus seulement de protéger de

manière directe un lieu, il faut, par

exemple, éviter de consommer inutile-

ment pour qu'il n'y ait pas de produc-

tions inutiles qui consomment

inutilement des ressources et font une

pression excessive sur les milieux. On

retiendra que plus une approche se réfère

au développement durable, plus elle

implique globalement l'action de l'être

humain, donc elle interpelle de plus

nombreux acteurs de plus nombreux

paliers de gouvernements et elle exige

plus de l'ensemble des individus.

Les projets territoriaux portent tant sur

les dimensions de réparation des sites

que de prévention des dommages. Ils ne

touchent qu'une partie du développe-

ment durable.

### Gestion horizontale

Il y a cinquante ans, on tenait pour acquis que chaque organisme gouvernamental avait ses responsabilités et s'en acquittait au mieux. Avec l'évolution des connaissances scientifiques on a compris que les phénomènes de l'action humaine dans un secteur affectaient l'autre. On a aussi réalisé que les phénomènes physiques, économiques et sociaux tiennent à plusieurs sortes de causes et portent plusieurs types d'impacts. Les gouvernements ont voulu enrichir la manière de traiter ces dossiers en développant des mécanismes de coordination au sein des paliers gouvernementaux, de consultation des groupes et de concertation entre les citoyens et de concertation entre les paliers gouvernementaux.



tion qui y habite. Ces questions exacerbent la sensibilité politique des populations locales.

Par ailleurs, certains facteurs affectent négativement la mobilisation au sujet des projets territoriaux : l'ampleur du territoire, la fréquentation et le caractère indirect des effets anticipés. On se mobilise plus pour une petite vallée où vivent des gens que pour un espace lointain plus méconnu.

## Développement durable

Au fil de la croissance des connaissances, on comprend que les questions environnementales impliquent une multitude

de phénomènes touchant les pratiques de vie humaine dans la société. Les effets croisés de ces pratiques affectent la qualité du milieu de vie. L'éveil de la population aux questions de l'environnement s'est fait par actions de réparation : des dommages avaient été causés et il fallait tenter de remettre un lieu dans son état d'origine. Avec le temps on a accepté l'idée qu'il fallait agir de manière préventive pour éviter d'endommager les milieux de vie.

Ainsi en fut-il de la lutte contre les changements climatiques qui prévient la détérioration des milieux de vie. On cible les facteurs affectant le changement climatique et on adopte des mesures tant éducatives que coercitives pour, par exemple, diminuer l'émission de CO<sub>2</sub>. Il s'est ensuite avéré que cette approche préventive devait impliquer l'ensemble de l'action humaine, puisque toutes les actions ont des impacts directs et indirects. Ainsi apparaît le *développement*

grandes politiques nationales ou internationales car leurs impacts semblent plus immédiats.

Les questions territoriales témoignent de la capacité juridique d'agir des gouvernements. Concrètement ils incarnent l'identification matérielle des paliers gouvernementaux. Aucun ne veut renoncer à ses responsabilités constitutionnelles et à la souveraineté juridictionnelle qui y correspond. Dans un système fédéral comme celui du Canada, chacun prétend justifier sa pertinence par la qualité de son implication. Ils constituent une occasion de justifier une certaine pertinence aux yeux des citoyens en tant

qu'instance gouvernementale. Comme l'écrit Harrison (1996, : 4-14), plusieurs autres facteurs activent positivement ou négativement la disposition à l'intervention d'un palier de gouvernement, comme la juridiction constitutionnelle, la prise de conscience de l'importance de l'enjeu, les coûts financiers à assumer, le sentiment de capacité de réussite, l'ouverture au conflit potentiel, la perception de ce que souhaite l'opinion publique, la proximité d'élections, etc.

Les projets territoriaux présentent des enjeux particuliers, parce qu'ils touchent directement la vie des gens qui habitent le territoire ou l'utilisent à des fins récréatives. Ces espaces de vie affectent le quotidien des gens. Ils portent donc une forte capacité de mobilisation. De plus, les territoires recèlent une capacité d'identification chez les gens : on est de telle région ou sous-région. Aménager ou protéger tel bassin, c'est s'adresser aux pôles d'identification de la popula-

**Pour organiser une réponse plus optimale aux défis du développement durable, il faut mieux organiser l'intégration des interventions des humains.**

Cet article décrit les particularités des mécanismes de collaboration dans une perspective de mise en œuvre d'ap-

proches intégrées de gestion à l'échelle territoriale. Il investigate les défis particuliers importants que doit relever cette collaboration en matière de projets spécifiques à un territoire, comparativement à la collaboration dans d'autres contextes. Il inventorie les mécanismes existants particulièrement appropriés pour une approche territoriale. Pour ce faire, il décrit les acteurs, les enjeux, et présente des initiatives horizontales en matière territoriale. Ce que plusieurs considèrent comme une utopie s'est déjà réalisé à plusieurs endroits sur la planète, là où les acteurs ont jugé l'enjeu suffisant pour justifier les investissements adéquats en termes de collaboration. En ce sens, l'utopie que décrit Thomas Moore correspond à l'évocation d'une situation aussi parfaite qu'inaatteignable.

## Les éléments considérés

Cette section s'intéresse aux dimensions de la territorialité, du développement durable et de la gestion horizontale.

### Territorialité

Par définition, tout projet territorial réfère à un espace qui, à la fois, relève d'une certaine manière de la municipalité, de la région, de la province, de l'État central et même quelques fois, d'un traité bi ou plurinational ou encore d'une entente entre des peuples qui habitent un même espace, comme c'est le cas des non-Autochtones et des Autochtones au Canada.

La collaboration en matière de politiques territoriales ou de projets qui portent sur un territoire spécifique présente des défis très particuliers. Pour les populations et les gouvernements locaux ces projets mobilisent plus que ne le font les

# Une utopie accessible : la collaboration horizontale en matière de projets territoriaux dans une perspective de développement durable

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L'intervention en développement durable, pourrât-elle si urgente et essentielle, apparaît souvent comme une tâche impossible tellement les obstacles semblent nombreux dont le refus des données probantes de la science et la crainte des impacts économiques à court terme. On observe aussi la nécessité de faire collaborer entreprises, groupes de pression, citoyens et divers paliers de gouvernement. La prise de conscience de la gravité de la situation se fait proportionnelle à la volonté d'engagement des intervenants<sup>2</sup>.

Déjà la définition de développement durable porte plus d'ambitions que la lutte aux changements climatiques, mission qui se frotte à de multiples difficultés de coordination entre les paliers gouvernementaux d'un seul pays, comme cela est le cas du Canada (Har- rison, 1996 : 10).

- 1 L'auteur remercie Stéfanie Bowles et Bernard Cantin du Projet de recherche sur le politiques (PRP) pour leurs idées et conseils et leur appui tout au long de la production de cette étude.
- 2 L'article résume les résultats d'une étude menée par le PRP disponible au <www.prp-pri.gc.ca>

L'air, le sol et l'eau, essentiels à la survie de l'humanité, se montrent fondamentalement indifférents à qui prend ou ne prend pas les décisions opportunes : ultimement, ils ne répondent qu'aux lois de la physique et de la chimie. Or l'Homme intervient en vertu des lois des rapports de pouvoir sur un territoire et ceux-ci s'avèrent quelques fois chaotiques, conflictuels et contre-productifs. Pour organiser une réponse plus optimale aux défis du développement durable, il faut mieux organiser l'intégration des interventions des humains; une approche de gestion horizontale a déjà permis de marcher sur le chemin de cette optimisation.

La question se pose avec beaucoup d'acuité dans le cas des interventions qui ciblent une partie du territoire : les citoyens y habitent ou l'utilisent, les groupes poursuivent une variété de buts, les entreprises y exploitent des affaires tandis que tous les paliers gouvernementaux, de trois à cinq, s'y intéressent en raison de leurs politiques nationales ou de leur responsabilité territoriale. Il peut s'agir de contrôler l'utilisation des terres pour l'entreposage de déchets, des sites pour favoriser la production d'énergie éolienne ou hydro-électrique, l'afflux d'eau dans les rivières ou encore l'intégrité de celle-ci menacée par l'exploitation agricole ou encore les activités touristiques. Comment alors, à travers la multiplicité des parties prenantes, préserver les rivières, la faune et la flore, la qualité de l'air, l'exploitation des sols? Comment organiser l'activité économique et sociale alors que beaucoup de décideurs disposent de moyens pour faciliter ou entraver des initiatives?



- d'actions humaines non coordonnées, le risque et d'évaluation environnemenale régionale. De plus, examiner comment les méthodes de gestion intégrée simplifient et augmentent la transparence de l'évaluation régionale, la planification et les processus réglementaires en créant une plateforme systématicque et commune pour un dialogue structuré, la communication et le partage de connaissances et l'évaluation à l'aide de scénarios sur le futur ainsi que de méthodes interdisciplinaires collaboratives.
- Évaluer l'utilité des projets de gestion intégrée dans la planification à moyen et à long terme et pour les évaluations environnementales en les utilisant pour analyser les trajectoires possibles de développement, et pour évaluer les compromis.
- Analyser comment la gestion intégrée a contribué aux orientations en matière de politiques et de surveillance (y compris l'utilisation de données sur les tendances passées et actuelles ainsi que la politique et les effets cumulatifs sur les éléments sociaux, économiques et biophysiques).

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## Le futur

Alors, où doivent s'insérer les méthodes de modélisation et d'élaboration de scénarios de la gestion intégrée dans les

projet.  
seulement à la fin d'une étude ou d'un réalisation et à son évaluation, et non pas lation de la proposition de projet à sa cessus de gestion intégrée, de la form- être effectuée à toutes les étapes du pro- cation d'une intégration efficace doit vites décisionnelles. Toutefois, la planifi- besoins explicites au sein des collecti- moins d'être officiellement liées à des sur la politique ou la planification à munication, aura une influence limitée de moyen d'apprentissage et de com- Bien qu'il soit important, leur rôle à titre l'usage des sols et à la gestion de risque. sont pas la solution à la planification de Les méthodes de gestion intégrée ne

scénarios adaptés aux politiques.  
nants d'imaginer des trajectoires et des nécessaires en permettant aux interve- priorités concurrentes et des compromis interactions au sein des collectivités, des à accroître la compréhension de ces Les méthodes de gestion intégrée aident pendantces entre l'homme et la nature. les interactions complexes et les interdé- environnementales locales en saisissant rer les conditions socioéconomiques et laborer à tout processus qui peut amelio- L'endroit où ils vivent, ont intérêt à col- nnelles ou simplement parce que c'est ponsabilités familiales ou profession- leurs intérêts de recherche, de leurs res- rêts » dans une région, soit en raison de nants. De plus, ceux qui ont des « inté- les collectivités de ces divers interve- dont une grande partie est diffusée dans de la recherche au sein d'une région, lisation des connaissances disponibles et car de telles méthodes maximisent l'uti- réussite des projets de gestion intégrée, société en général ont un intérêt dans la Les universitaires, les décideurs et la

savoir.

prenons pas ou que nous ne pouvons pas- tique : comprendre ce que nous ne com- entre la science et les objectifs de la poli- 1990). Voilà en fait le concept commun concurrence (Morgan et Hention, parmi les modèles ou les hypothèses en plutôt de donner la meilleure explication « vrai », car il n'y a pas de vérité, mais dans les sciences, le but n'est pas d'être impossibles à vérifier. Toutefois, même l'évaluation des conditions qui sont lyse des politiques suppose généralement fication des hypothèses alors que l'ana- scientifiques mettent l'accent sur la véti- l'incertitude et du risque. Les méthodes prises sans tenir pleinement compte de qui surviennent quand les décisions sont ceptables à court terme et à long terme comprendre et à réduire les coûts inac- faire progresser notre capacité à cerner, à sances disponibles soient utilisées pour tion de politiques afin que les connais- la gestion et les communautés d'élabora- connaissance et les priorités de recherche, intégrer les différents domaines de Nous voyons aussi l'utilité de chercher à façon systématique au sein d'une région. nautés de savoir et de recherche à de- rticiper les décideurs et les autres commu- outil de planification servant à faire par- voir la gestion intégrée simplement l'extérieur d'une région. On pourrait vant vraisemblablement se produire à ou dans le contexte d'événements pou- compris les effets possibles dans l'avenir socioéconomiques dans une région, y de complexités environnementales et une meilleure compréhension globale processus de planification pour favoriser tion intégrée doivent être ajoutées au question. Toutefois, les méthodes de ges- avis, il n'y a pas qu'une réponse à cette prise de décision? À notre

La plupart des projets de gestion de inté- grée que nous avons étudiés à ce jour ont été entrepris et dirigés par des chercheurs au sein de gouvernements ou d'établiss- sements d'enseignement qui sont moti- vés par des priorités disciplinaires ou sectorielles (comme la publication d'ar- ticles, dans le cas des universitaires ou le respect de mandats sectoriels, dans le cas des gouvernements). La gestion ou la compréhension des complexités qui dépassent ces frontières traditionnelles d'interrogation nécessitent des remue- ménages, une recherche poussée et un partage des connaissances ainsi que de nouvelles méthodes analytiques permet- tant de traiter de grandes quantités d'in- formation, complexes et corrélationnels (temps et espace). Les méthodes de ges- tion intégrée qui allient des ensembles de données spatiales, des outils analytiques projets et des occasions pour les divers intervenants d'exprimer leur opinion sur les objectifs de durabilité à court et à long terme représentent un outil pra- tique d'apprentissage et de communica- tion servant à accomplir cette tâche. En renforçant la base scientifique des modèles qui soutiennent les méthodes de gestion intégrée, elles pourraient aussi fournir des évaluations quantitatives des options spécifiques de politiques et de gestion à long terme.

• Analyser comment les méthodes de gestion intégrée peuvent accroître ou soutenir la capacité régionale à gérer les enjeux locaux et régionaux comme les effets cumulatifs résultant



Règle générale, les décideurs participants ont accueilli favorablement les initiatives d'élaboration de politique. Dans les projets de gestion intégrée qui ont été étudiés, les méthodes additionnelles appliquées pour rendre les résultats du projet accessibles aux décideurs se concentraient principalement sur la mise en valeur des principaux résultats de l'étude globale (de manière visuelle et textuelle), comportaient des recommandations générales destinées aux décideurs et présentaient des questions de suivi soulevées par la recherche de pertinence et posées aux décideurs. Parce que ces projets manquaient de liens directs à des objectifs de politiques explicites ou à des organismes ayant des responsabilités réglementaires, nous n'avons pas pu retracer la politique directe ou les décisions influencées par les résultats des projets de gestion intégrée. Par conséquent, nous disposons d'information très limitée sur les modifications réelles de politiques ou les mesures locales directes qui ont été prises pour tenir compte des recommandations ou des résultats de ces études. Nous soupçonnons que bon nombre des effets de ces projets, dont ceux relevant du domaine des politiques, se sont produits après le parachèvement de ceux-ci et souvent sans que les membres de l'équipe, qui ne participent pas activement aux processus de planification, ne le sachent.

Enfin, il est difficile de promouvoir la pertinence relative aux politiques dans les projets de gestion intégrée non seulement à cause des divers besoins des groupes impliqués, mais aussi de la difficulté d'imposer des normes scientifiques rigoureuses aux équipes interdisciplinaires. Ces équipes doivent fixer leurs propres normes d'excellence qui valorisent l'intégration et la production de résultats en collaboration avec les intervenants (Parker *et al.*, 2002).

Tableau 1  
Moyens appliqués dans les dix projets de gestion de l'intégration pour évaluer le système actuel

Appuyer la mise en œuvre des résultats									
■	■	■	■	■	■	■	■	■	■
Création de capacité									
■	■	■	■	■	■	■	■	■	■
Elaboration de politiques locales									
■	■	■	■	■	■	■	■	■	■
Amélioration du processus de planification									
■	■	■	■	■	■	■	■	■	■
Recommandations aux décideurs*									
■	■	■	■	■	■	■	■	■	■
Suivi et évaluation des progrès									
Collecte régulière de données									
■	■	■	■	■	■	■	■	■	■
Recommandations de politiques et d'objectifs futurs									
■	■	■	■	■	■	■	■	■	■
Analyse des mesures appliquées									
■	■	■	■	■	■	■	■	■	■
Réunions avec les principaux intéressés									

Remarque : \* Recommandations aux décideurs régionaux, provinciaux et nationaux.

Enfin, la participation avec divers groupes d'intervenants, dont des ressources locales et régionales, des gestionnaires et des décideurs, à des projets de gestion intégrée permet aux utilisateurs de prendre part à un débat sur les solutions souhaitées tout en approfondissant continuellement leur compréhension des priorités, de ce qui peut être considéré comme des résultats atteignables et de la façon dont ils voient la durabilité. En ce sens, la participation des chercheurs et des intervenants permet de comprendre la signification de la durabilité et de ce qu'elle peut exiger (Robinson, 2008). Toutefois, à partir des projets analysés, seul un nombre limité de participants a songé à analyser explicitement ce que signifie la durabilité à long terme pour les divers intervenants et l'appliqué à sa méthode. Laisser de la place aux intervenants et aux décideurs pour qu'ils expriment leurs opinions sur la durabilité au niveau du paysage et en tenir compte dans le processus de recherche représente une étape importante visant à accroître le sentiment de collaboration et d'appartenance que relativement aux résultats du projet et de son utilité.

**Nécessité de l'intégration dans un contexte de diversité des buts, objectifs et résultats**

En général, les sciences et les politiques répondent à des objectifs différents. Les scientifiques et les décideurs utilisent un

Ensemble différent de méthodes, et leurs valeurs et perspectives sont souvent distinctes. Fait encore plus important, ils ne comprennent pas les systèmes de connaissances des autres. Les scientifiques se plaignent souvent que leur voix est ignorée des décideurs, mais ces derniers ont aussi exprimé leur insatisfaction à l'égard de l'information critique qui, souvent, n'est pas rapidement disponible, accessible, ni présentée dans un format utilisable (Sawitz et Pielke, 2007). L'intégration est souvent pluriel mince dans la pratique en ce qui concerne plusieurs objectifs, dont la recherche interdisciplinaire et la production de résultats scientifiques ainsi que la définition de niveaux de recherche en fonction d'objectifs pertinents d'élaboration de politiques (ou de résultats). Il s'agit en d'autres termes d'effectuer de la recherche qui conduit à l'information pouvant appuyer diverses décisions de gestion et répondre à des exigences en matière de planification.

En pratique, les projets de gestion intégrée étudiés pourraient être considérés comme des processus analytiques dont sont issus des guides visant à fournir de l'information utile sur les enjeux presants locaux ou régionaux, sans lien direct avec les objectifs de la politique. Chaque projet a quand même réussi à fournir des renseignements à des autorités décisionnelles dans la région de l'étude. En fait, on considérerait dans la plupart des projets analysés qu'il était important de contribuer à mieux faire connaître les enjeux aux décideurs régionaux.

- Processus de planification ayant aidé les décideurs à comprendre les liens entre l'environnement et les prises de décisions humaines au sein du modèle intégré.
  - Recommandations générales pour l'élaboration de politique faites en fonction des modèles et des scénarios élaborés. Toutefois, de tels commentaires avaient tendance à être présentes du point de vue de la recherche, une tendance de tous les projets de gestion intégrée analysés.
- Renforcement des capacités pour les décideurs s'attachant principalement à les aider à apprendre comment utiliser le modèle élaboré, comment créer et interpréter des scénarios futurs et comment traiter les incertitudes du modèle.
- Aide à l'élaboration de la politique locale visant principalement à fournir des intrants pour la planification de l'utilisation du sol, les plans de gestion locale et le zonage.

Ensemble différent de méthodes, et leurs valeurs et perspectives sont souvent distinctes. Fait encore plus important, ils ne comprennent pas les systèmes de connaissances des autres. Les scientifiques se plaignent souvent que leur voix est ignorée des décideurs, mais ces derniers ont aussi exprimé leur insatisfaction à l'égard de l'information critique qui, souvent, n'est pas rapidement disponible, accessible, ni présentée dans un format utilisable (Sawitz et Pielke, 2007). L'intégration est souvent pluriel mince dans la pratique en ce qui concerne plusieurs objectifs, dont la recherche interdisciplinaire et la production de résultats scientifiques ainsi que la définition de niveaux de recherche en fonction d'objectifs pertinents d'élaboration de politiques (ou de résultats). Il s'agit en d'autres termes d'effectuer de la recherche qui conduit à l'information pouvant appuyer diverses décisions de gestion et répondre à des exigences en matière de planification.

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L'intégration de diverses cultures de connaissances dont les sciences naturelles, les sciences sociales et les sciences humaines est souvent mise en péril en raison d'un manque de terminologie commune et de la séparation de ceux qui utilisent des méthodes quantitatives ou qualitatives. L'intégration de diverses disciplines devrait plutôt être effectuée en fonction de ce qui nous semble être approprié pour aborder les enjeux au niveau territorial voulu. L'objectif ne consiste pas à obtenir à la fin un modèle intégré qui décrit les systèmes et les tendances actuels ainsi que les scénarios futurs comme produit final, mais plutôt à adapter le modèle ou le processus de gestion intégrée pour qu'il devienne un moyen d'analyser le problème et un outil de communication partagé par divers groupes de chercheurs et d'intervenants (Parker *et al.*, 2002).

L'expérience tirée des projets analysés indique que l'intégration efficace des données et des modèles qui représentent des domaines environnementaux, économiques et sociaux au niveau territorial nécessiterait de l'attention au cours des premières étapes de l'élaboration du projet. La plupart des modèles ont été créés par une équipe multidisciplinaire de

chercheurs faisant participer les intervenants à des consultations sur des enjeux comme la pertinence des résultats et les recommandations. Afin d'améliorer le processus, il serait utile de revoir les intrants disponibles, les produits et les résultats souhaités ainsi que le modèle planifié ou la structure du processus quand le cadre est élaboré. De plus, il serait profitable de réviser les ensembles de données et les indicateurs suivis pour évaluer s'ils sont pertinents à la réflexion sur les conditions socio-économiques et environnementales changeantes, s'ils sont utiles pour prévoir et vérifier les politiques et les scénarios futurs et s'ils sont adéquats pour planifier la politique et les lois. Comme l'indiquent les études revues, cet objectif pourrait être atteint en créant un conseil indépendant consacré à la conception et à la gestion de l'information, à l'évaluation et à la création de modèle ou à l'évaluation de portions du projet de gestion intégrée. Ce conseil, devrait être formé de membres respectés des diverses communautés de savoir – sciences, lettres et sciences humaines, techniciens, praticiens, ainsi que les communautés locales qui souhaitent un équilibre entre elles et au sein de chacune d'elles (CIT Review, 2005).

**Encadré 2**  
**Exemples de groupes d'intérêts en gestion de l'intégration :**  
**Inclusivité en vertu de la Alberta Land Stewardship Act**

- Tous les ministères du gouvernement provincial ainsi que les conseils et organismes décisionnels
- Les municipalités et les autorités des administrations locales
- L'industrie, dont les entreprises jouissant de concessions de droits miniers et d'ententes de gestion de l'environnement forestier ainsi que les exploitations agricoles
- Tous les Albertains

diverses disciplines et entre scientifiques et intervenants, dont les décideurs et la collectivité.

Il faut une intégration appliquée à divers objectifs (résultats scientifiques et pertinence pour l'élaboration de politiques et la gestion) pour aplanir les différences entre, d'une part, les objectifs et les résultats exigés par les scientifiques et, d'autre part, les résultats pertinents pour les gestionnaires de ressources et les décideurs.

Nous fournissons des exemples de méthodes utilisées dans les projets de gestion intégrée pour illustrer comment l'intégration des disciplines, des intervenants et des résultats dans le contexte de l'élaboration de politique a été réalisée.

**Intégration de divers domaines de connaissances et des intervenants**

Une intégration de ce type signifie que diverses disciplines et communautés de savoir sont réunies et que leurs connaissances sont mises en commun pour répondre à une question de recherche (Tress *et al.*, 2007), aider à mieux comprendre les contextes, et résoudre les problèmes liés à la planification et à l'élaboration de politique. Pour ce faire, il faut mettre en contact les chercheurs oeuvrant dans diverses disciplines universitaires et les participants ne provenant pas du milieu de l'enseignement comme les représentants du gouvernement, les responsables de la gestion foncière et le grand public afin de répondre efficacement aux questions pertinentes. De cette façon, le projet de gestion intégrée reflète le contexte particulier des mesures relatives au paysage et à la société dont les réactions potentielles des politiques posées.

# Encadré 1 Les dix méthodes et projets de gestion intégrée

Le choix et l'évaluation de la recherche sur les études de cas ont été fondés sur diverses sources de données et techniques d'analyses, dont des études de la documentation didactique et des praticiens et des entrevues avec des membres importants de l'équipe des projets analysés.

1. Évaluation intégrée participative de la gestion de l'eau et des changements climatiques dans le bassin de l'Okanagan (EIP – Okanagan)
2. Le Projet de prospective sur le bassin de Georgia
3. De la ceinture de maïs vers le golfe : répercussions sociétales et environnementales de l'avenir d'une agriculture différente (ceinture de maïs)
4. Vallée Willamette – Puget Trough – Bassin Georgia – Évaluation écologique (EvoLand)
5. Programme de l'équipe d'information côtière, Colombie-Britannique
6. Modèle relatif au paysage INGRID
7. Évaluation des effets de la durabilité : outils sur les effets environnementaux, sociaux et économiques de l'utilisation multifonctionnelle des terres dans les régions européennes (SENSOR)
8. Évaluation intégrée de la vulnérabilité du lac Balaton et stratégies d'adaptation (Balaton)
9. Analyse et modélisation avancées de l'écosystème terrestre (ATEAM)
10. Pathway – Vision de l'avenir du lac Tahoe (PATHWAYS)

- Évaluation des modèles biologiques, elles ont rapidement évolué à la fin des années 1980 et 1990 vers des modèles intégrés « systémiques » qui utilisaient souvent des modèles explicites sur le plan spatial pour analyser l'incertitude et les réactions de causes et effets (Stevens *et al.*, 2007). Bien que la plupart des projets de gestion intégrée soient mis sur pied pour régler des problèmes locaux ou régionaux précis comme la gestion des forêts, l'érosion, les effets des changements climatiques, la planification de la conservation, etc., ils présentent néanmoins des caractéristiques communes. En fait, le cadre général de la gestion intégrée comprend toujours les étapes suivantes :
- Évaluation des tendances et de l'état passés et actuels des systèmes locaux et régionaux analysés par la collecte de données, l'établissement d'indicateurs et la création de modèles intégrés qui peuvent être qualitatifs (descriptifs) ou quantitatifs.
- Création de scénarios du futurs de trajectoires de changements ou nouveaux modèles intégrés existants ou nouveaux (c'est-à-dire des modèles de systèmes informatisés) ou de modèles descriptifs qui aident à voir l'état, à moyen et à long terme, de la région à l'étude.

Parce que les projets de gestion intégrée dépendent de l'endroit et des problèmes, la plupart des progrès en matière d'intégration à l'élaboration de politiques ont été réalisés dans le contexte des projets spécifiques, ce qui signifie que le transfert des leçons tirées est limité. Dans le présent document, nous comparons les expériences et les leçons tirées à partir de dix projets de gestion intégrée réalisés au Canada, aux États-Unis et en Europe (voir l'encadré 1) et mettant l'accent sur deux défis principaux en matière d'intégration.

- Il faut assurer une intégration dans divers domaines de connaissances (connaissances scientifiques, traditionnelles et locales) pour aplanir les différences entre scientifiques de



Introduction

Un grand nombre de problèmes sociaux et environnementaux actuels ne se résoudront pas sans une révision en profondeur de la manière dont nous analysons les interactions indissociables entre l'homme et la nature (Tippet *et al.*, 2007). Il ne suffit pas toutefois d'étudier et de mieux comprendre ces interactions. Il faut aussi les traduire en des résultats pertinents à l'élaboration des politiques afin de guider la gestion des ressources. Ce n'est pas une tâche facile. Si on ne réussit pas à analyser comment des décisions locales distinctes sont inter-reliées entre différentes secteurs ainsi qu'à l'échelle spatiale et temporelle, les coûts engendrés peuvent être considérables. Dans certains cas, de tels coûts peuvent se perpétuer longtemps après l'application de mesures

Éclairer le processus d'élaboration des politiques grâce à la gestion intégrée

correctives (p. ex. l'amiante, les halocarbones appauvrissant la couche d'ozone) (EEA, 2001).

Les investissements majeurs des gouvernements dans les sciences et les technologies reflètent l'importance des connaissances et de la recherche. Un des grands défis que doivent relever les décideurs à tous les échelons et dans tous les secteurs consiste à trouver des façons de rendre disponibles des connaissances scientifiques pertinentes (en temps réel à des échelles appropriées). Ces connaissances et ces renseignements seront adéquatement analysés dans le contexte des processus d'une planification régionale complexe devant tenir compte de plusieurs disciplines, groupes d'intervenants et objectifs? Les méthodes de gestion intégrée, par exemple, la *Alberta Land Stewardship Act*, sont apparues comme des façons prometteuses d'explorer les solutions de remplacement, d'analyser les risques et de songer aux meilleures options dans le contexte des priorités socioéconomiques et environnementales dans le temps et l'espace, ainsi que les compétences. On peut voir la gestion intégrée comme une méthode ou un ensemble de méthodes visant à gérer diverses activités humaines à une échelle régionale ou plus vaste et ayant été élaborées au cours des 50 dernières années ou plus. Elles suivent une tradition qui comprend des méthodes, comme la gestion intégrée des ressources, la gestion intégrée des bassins hydrologiques, la planification régionale de l'utilisation du sol et la gestion écosystémique (Hanna et Slocumbe, 2007). Bien que les applications de gestion intégrée rendaient initialement à être axées sur la description des systèmes écologiques et biophysiques grâce à

- 1 Au Royaume-Uni, le gouvernement fixe un objectif de 2,5 p. 100 du produit intérieur brut à consacrer à la recherche et au développement (Royaume-Uni, 2004). Au Canada, le gouvernement s'est engagé à consacrer en 2009 une somme de 5,1 milliards de dollars destinée aux projets en sciences et technologies (RCE, 2009).
- 2 Citons comme exemple d'une telle méthode la loi adoptée récemment et intitulée *Alberta Land Stewardship Act*, 2008, qui met l'accent sur l'intégration de la politique et des processus de planification ainsi que sur l'utilisation de la surveillance et de l'information de recherche.

## Initiative concernant les situations de crise dans les collectivités des Premières nations

Pour soutenir la santé et la résilience au sein des Premières nations aux prises avec des situations difficiles, Santé Canada a mis sur pied en 2007 l'Initiative concernant les situations de crise dans les collectivités des Premières nations. L'ap- proche suivie tient compte du fait que, pour connaître le suc- cès, un programme de santé communautaire doit s'appuyer sur la collectivité et être global et que, pour améliorer la santé et le bien-être en général des membres d'une collectivité, les programmes doivent améliorer systématiquement les détec- minants sociaux de la santé, qui échappent en général au mandat de Santé Canada. Pour y parvenir, il faut éliminer les obstacles inhérents aux différences entre les régimes de reddition de comptes, les informations à communiquer et les mécanismes de financement des divers ministères et orga- nismes.

Santé Canada recueille des données probantes sur les pro- blèmes de santé des Autochtones en commanditant des ana- lyses documentaires et des études analytiques et en étudiant des exemples de situations de crise antérieures au sein des Premières nations. Cette initiative bénéficie aussi de la collaboration des bureaux régionaux de Santé Canada et d'AINC et des Services à l'en- fance et à la jeunesse afin de mettre en place jusqu'à cinq pro- jets dans des collectivités des Premières nations du nord de l'Ontario. Ces projets pilotes permettront de cerner les atouts et les besoins des collectivités et de les intégrer à des plans communautaires globaux visant à trouver des solutions adap- tées sur le plan culturel aux principaux déterminants sociaux de la santé.

Une description plus détaillée de cette initiative se trouve sur le site du Projet de recherche sur les politiques <www.prp-pri.gc.ca>

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contexte, il est également important de comprendre la capacité actuelle (tant fédérale que non fédérale) et les besoins à cet égard en vue de soutenir les approches globales au Canada. ●

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Tous étaient unanimes quant au besoin d'une certaine forme d'entité de facilitation centrale (coordination), avec la participation active d'instances dûment autorisées qui sont en mesure de transcender les limites et de considérer la situation au Canada

L'utilisation d'un réseau centralisé offre un large éventail d'activités de soutien aux praticiens régionaux en temps opportun. Ce réseau réunit des com-munautés professionnelles d'experts qui peuvent offrir des suggestions, des conseils et un soutien selon les besoins (c.-à-d. sur les besoins transversaux en matière de réseautage, de participation et de capacité). Il fournit aussi un contexte de travail et de recherche élargi favorisant une démarche d'en-semble, qui accroît les possibilités et tire parti des travaux de recherche et des programmes en cours (et réduit les répétitions inutiles) et facilite le transfert du savoir au Canada et à l'échelle internationale.

**Aller de l'avant – prochaines étapes**

Il est clair que la gestion globale (c.-à-d. la GI, la gestion axée sur les écosystèmes, la gestion intégrée des ressources en eau, etc.) comporte des difficultés étroites-ment liées aux structures de gouvernance et aux approches de gestion actuelles. Comme beaucoup de ces difficultés sont dues au fait de transcender les frontières, aux effets cumulatifs et à la gestion du risque, et aux questions de contexte élargi, dont beaucoup ont une portée internationale, un des objectifs d'IMA-GINE Canada consiste à les examiner dans le contexte des synergies et des liens entre les activités de programme et les priorités fédérales actuelles. Autrement dit, examiner l'étendue des rôles, des priorités et des activités complètement-

Tableau 1  
Types d'activités de soutien offerts par les membres du réseau, par rôle et organisme

Renforcement des capacités									
Équipes de projet du CIRA	Comité directeur	Experts externes	IBDD	Géocommunications Canada	Projet de recherche	Conseillers du gouvernement	Secrétariat		

Formation entre pairs									
Soutien en matière d'information et de données									
Formation dirigée (dans des domaines particuliers de travaux appliqués, p. ex., recherche de consensus, planification de scénarios)									
Réseautage/diffusion/partenariats (p. ex., synergie entre les programmes)									
Soutien à la recherche (enseignements tirés et autre information sélective sur le plan technique et des processus)									
Financement									
Coproducton du savoir (activités d'intégration et transversales)									
Mécanismes de diffusion/partage/échange de l'information									
Liaison avec les experts (et réseautage)									
Tribunes pour la coproduction du savoir (intégrant la science, les données, etc.)									
Intégration dans tous les paliers de gouvernement									
Crédibilité et validation									
Conseils stratégiques et établissement de contexte (p. ex., contexte juridique et réglementaire)									
Coordination des interactions, planification et organisation de la participation et des activités des membres du réseau									
Surveillance et évaluation									

Notes:

Ces activités ont été réalisées de diverses manières, dans le cadre de formations et d'ateliers en personne parmi tous les membres du réseau, et dans le cadre de formations et d'échanges d'information en ligne (sur le Web). Au fil du projet, nous continuerons dans le même esprit, en offrant d'autres activités de formation entre pairs et de spécialisation (en ligne), de la recherche thématique (technique, gouvernance et sciences et technologies pratiques), et la consignation et la publication des connaissances acquises.

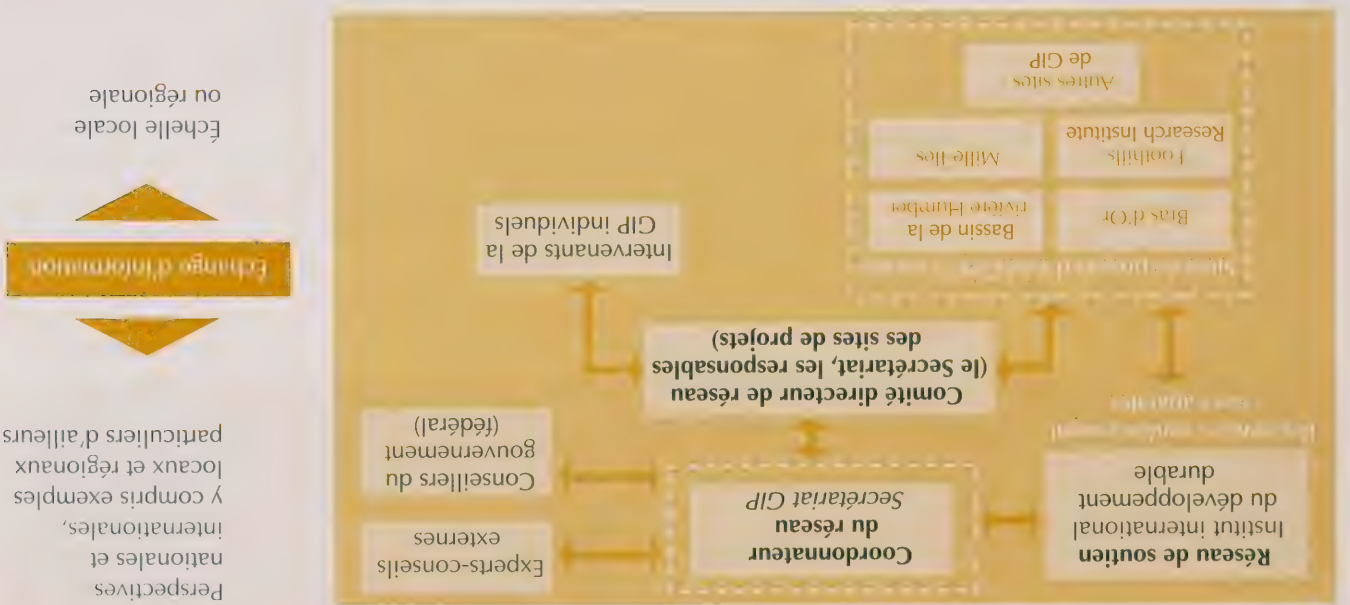
a) Activités à l'échelle régionale, menées par et pour les membres du réseau régional. Ces activités régionales reçoivent un soutien supplémentaire d'IMAGINE Canada, dont une grande partie est en supplément des activités régionales de nature transversale en cours.

b) La surveillance et l'évaluation ont lieu au sein du Secrétariat relativement aux besoins, aux priorités et aux objectifs du réseau global, y compris la

diffusion de certains éléments aux équipes régionales pour leur permettre de tenir compte de la complexité et de l'incertitude (p. ex., la planification intégrée et l'évaluation des effets cumulatifs), contrairement à la surveillance et à l'évaluation effectuées par certains ministères et organismes gouvernementaux et autres organismes officiels dans les régions et au niveau central, qui seront liées entre autres à des mandats et à des activités de programmes particuliers.



**Figure 1**  
Structure de gouvernance d'Imagine Canada



• **Définir un contexte global.** Accroître l'impact et la pertinence des politiques en identifiant des synergies ou des mandats ou objectifs concurrentiels afin de mieux répondre à tous les mandats (c.-à-d., des objectifs locaux, nationaux et internationaux). Cela contribuerait également à simplifier les besoins en matière de ressources (p. ex., les évaluations stratégiques/environnementales) en établissant des liens entre différents secteurs stratégiques.

la responsabilité du gouvernement du Canada, Environnement Canada et GéoConnexions Canada ont entrepris la mise en œuvre expérimentale de l'idée de réseau national proposée en 2005 – le Réseau pour la gestion intégrée et l'information géospatiale pour l'environnement (PRR, 2009) (Figure 1).

5 Le Secrétariat assure la planification et la mise en œuvre, avec l'appui soutenu des comités consultatifs, qui fournissent un soutien technique ou un appui à la recherche et aux programmes (et l'examen ou la validation par les pairs), de l'IIDD, qui fournit la capacité aux membres du réseau, et du PRR. La fonction du Secrétariat dans le réseau est essentielle à toutes les activités, de la synthèse, la définition et la coordination des activités de soutien à la diffusion et à la formation, tant à l'échelle nationale qu'internationale.

Encadré 2  
Applications pratiques de GI

1. Évaluation environnementale (EE) (intégration améliorée, simplification, élaboration de processus régionaux d'EE, évaluation environnementale stratégique).

2. Coproduction du savoir (et partage)

- examen de l'incertitude et du risque axé sur les systèmes (plus grande portée temporelle et spatiale et prise en compte de la complexité globale des enjeux);
- analyses comparative et coûts-avantages élargies à l'analyse des options de gestion et de politique (informations multiples sur les secteurs, les aspects socioéconomiques, la santé humaine et l'hygiène de l'environnement).

3. Aménagement du territoire (y compris les bassins versants, les ressources, etc.).

4. Aide à la décision

- établissement (portée régionale, intégrée), d'objectifs (seuils);
- évaluation des politiques (pangouvernementale et sectorielle).

5. Gestion des effets cumulatifs.

zones de compétence. Cela crée un cercle vicieux dans lequel la nécessité d'une meilleure gestion de la complexité et des effets cumulatifs au moyen de la planification intégrée peut être entravée par l'incapacité des gestionnaires à justifier des activités qui ne sont pas de leur ressort ou de leur mandat. Par conséquent, la succession de problèmes pour toute communauté de GI nécessite du temps et de l'attention pour venir à bout des systèmes fragmentés de gouvernance et de gestion (y compris ceux responsables de la gestion non coordonnée des politiques, des données et de l'information) et essayer de maintenir la participation et la collaboration de tous les intervenants (PRP, 2005a,b; Walidick et coll., 2006).

Nous avons demandé à divers groupes de praticiens de la GI canadiens et internationaux quelle était la meilleure façon d'aborder le problème fondamental de l'intégration (PRP, 2005b). Le résultat est une carte descriptive d'un réseau national centralisé qui sert à simplifier et à faciliter tous les besoins en matière d'échange, de formation et d'intégration des communautés de pratique régionales (y compris faciliter l'échange entre homologues parmi les groupes d'experts). Tous étaient unanimes quant au besoin d'une certaine forme d'entité de facilitation centrale (coordination), avec la participation active d'instances

Tenter de venir à bout  
des difficultés : le rôle  
du gouvernement fédéral

- **Coordonner les interactions au-delà des limites.** Faciliter les tribunes/interactions intercompétences et intersectorielles nécessaires aux échelles voulues, préciser les rôles, les responsabilités et les objectifs afin d'orchestrer les mesures de gestion et de réduire la contradiction dans les objectifs stratégiques.
- **Favoriser la coproduction du savoir.** Faciliter l'échange d'information, de données (y compris l'information et les données sensibles) et d'expertise (y compris transdisciplinaire), et des cadres de discussion propices permettant un examen logique des besoins et des risques en matière de gestion ainsi que de la planification (c.-à-d., une approche par anticipation de la gestion de l'incertitude).

dûment autorisées qui sont en mesure de transcender les limites et de considérer la situation au Canada dans son ensemble et à long terme. Comme la portée et l'ampleur des besoins en matière d'échange, de coproduction du savoir et de capacité dépassent le pouvoir et la capacité de facilitation et de gestion des gouvernements provinciaux, du secteur privé ou des organismes non gouvernementaux, il a été clairement exprimé que ce rôle incombat au gouvernement fédéral.

Cependant, les limites ne constituaient pas le seul problème. D'autres besoins immédiats comprenaient les questions de sécurité, l'accès à l'information et aux données (et leur gestion), le transfert de la science et de la technologie et la formation scientifique et technologique. Le rôle fédéral dans un tel réseau centralisé a été défini en trois volets.



## L'état de la GI au Canada

Il existe de nombreuses communautés d'experts et de décideurs en matière de planification adaptée au milieu au Canada. Au cours des cinq à dix dernières années, on a vu apparaître de plus en plus de cadres et d'approches de gestion et de planification intégrées aux paliers provinciaux et territoriaux (Oborne, ce numéro, p. 42).

Il est important d'établir une nuance : bien que les modèles de gouvernance favorisant l'intégration, comme celui en Alberta, utilisent un fondement législatif pour faciliter la planification et la gestion le long de limites biophysiques, qui représentent les véritables unités d'impact, leur existence ne nécessite pas de changer d'autorité responsable. En Ontario, des offices de protection de la nature ont été mis sur pied pour permettre une gestion coordonnée des bassins versants, grâce à la création d'une tribune dans le cadre de laquelle les autorités concernées pouvaient orchestrer des mesures d'adaptation (au moyen d'un dialogue favorisant la coordination et la collaboration) en utilisant les limites naturelles des bassins versants. Les lois de l'Ontario et de l'Alberta sont des exemples de stratégies formalisées et systématiques mises en place en vue de coordonner le dialogue, la planification et la mise en œuvre de façon continue. En créant des systèmes plus structurés, ces stratégies répondent aux besoins en matière d'échange d'information et de données au-delà des barrières informationnelles, de partage du savoir et de gestion de l'information – tous des éléments essentiels de la GI<sup>4</sup>.

Canada. Notre examen initial a recensé plus de 80 applications de type GI. Bien que leur objectif varie, ce sont toutes des approches systémiques, participantives et scientifiques fondées sur l'information, du risque et de la planification dans des conditions d'information imparfaite. Elles prennent en compte les impacts de l'incertitude et du manque d'information au moyen d'outils analytiques intégrés, y compris les interactions entre les activités stratégiques ou de gestion et les effets cumulatifs. Elles établissent également des objectifs de gestion communs aux zones de compétence (p. ex. politiques, réglementation); suscitent et maintiennent la participation de collaborateurs à intervenants multiples; Un examen détaillé de 20 communautés de GI au Canada a montré qu'elles sont aux prises avec les mêmes difficultés que celles déterminées lors d'un atelier à l'intention des praticiens qui s'est tenu en 2005 (PRP 2005b; voir aussi l'encadré 2). La caractéristique dominante de toutes ces difficultés est étroitement liée à la nature de la GI, qui favorise la collaboration à tous les niveaux, c'est-à-dire qu'elle transcende les limites de l'information, de l'expertise, des disciplines, des secteurs et des

4 (Bizikova et Walidick, ce numéro, p. 81; Liu *et al.*, 2009). Comme dans l'exemple de l'Alberta, les besoins en matière de capacité pour poursuivre ces initiatives à intervenants multiples sont considérables. Leur efficacité et leur survie dépendent de l'appui du gouvernement. À l'heure actuelle, il existe 36 offices de protection, qui représentent 90 % de la population de l'Ontario. Les dirigeants sont nommés au niveau municipal (la majorité seraient des conseillers élus dans la région) et chacun sert à établir un lien entre des zones de compétences autrement disparates afin d'intégrer et de coordonner les conseils, les services et la planification fondés sur la science. Les offices tirent leur financement de revenus propres et de taxes, de projets et de subventions municipales ainsi que de contrats et de subventions fédérales. Le budget annuel de la prestation des programmes et des services est de plus de 250 millions de dollars canadiens. Pour de plus amples renseignements, voir Conservation Ontario, s.d.).

### Encadré 1 Défis établis en matière de GI

- Prendre en charge la gestion et les impacts sur de longs échéanciers.
- Examiner les questions spatiales (p. ex., les limites des zones de compétence établies) afin de régler les problèmes (régionaux et mondiaux).
- Passer des formes de spécialisation fonctionnelle et théorique à des formes favorisant l'intégration (base sectorielle des ministères, paradigmes de recherche disciplinaire).
- Établir des stratégies et des approches scientifiques (outils) afin de mieux comprendre l'incertitude et l'inconnu (risque).
- Trouver un soutien afin de modifier les approches établies, réexaminer les buts visés et le besoin de changement (p. ex., passage aux énergies renouvelables).
- Adopter des approches décisionnelles souples (adaptatives).

Note : On parle de plus en plus de gestion intégrée dans les études sur la façon de répondre aux objectifs complexes en matière de développement durable. Meadowcroft et Bregha (2009) présentent un examen exhaustif des liens entre la GI et le développement durable.

Source : Meadowcroft et Bregha (2009).

- 2 Cela s'effectue de diverses manières, à l'aide d'un scénario ou de modèles projectifs informatiques (RRP, 2005a), et par des spécialistes en la matière (disciplinaire) dans le cadre de processus à intervenants multiples (Meadowcroft et Bregha, 2009).
- 3 Autrement dit, même si tous les secteurs peuvent fonctionner individuellement selon des normes et pratiques environnementales établies, leurs impacts collectifs dépassent ce que le système naturel est capable de subir. L'approvisionnement en eau est considérablement réduit dans certains secteurs, allant jusqu'à créer des conflits entre les utilisateurs (les agriculteurs, les grands éleveurs, l'industrie, le public).

Bien qu'elles semblent longues et intimidantes, les évaluations globales permettent la mise en œuvre rapide de mesures hautement efficaces dans de courts délais. De telles interventions ne doivent pas être axées sur des événements catastrophiques. Meadowcroft et Bregha (2009) donnent quelques exemples. Aux Pays-Bas, par exemple, un cadre fédéral de gestion adaptative est adopté en vue d'établir des trajectoires et une coordination interministérielle et de lancer la consultation auprès des intervenants, de faciliter l'utilisation d'outils analytiques pour l'examen des scénarios, d'effectuer des exercices de visualisation et de fixer des objectifs – tous des éléments reconnus de la GI (Bizikova et Waldick, ce numéro, p. 81).

Le cadre réglementaire d'utilisation des terres en Alberta (SRD, s.d.) est un autre exemple d'un gouvernement conscient de la nécessité d'élaborer de nouveaux outils de gouvernance. Le cadre a été établi afin de faciliter la gestion des effets cumulatifs. Il est appuyé par l'*Alberta Land Stewardship Act*, qui sert de fondement à la coordination entre les multiples intervenants et groupes d'intérêts responsables de la gestion et de la planification, afin d'assurer que les effets cumulatifs de toutes les activités d'une région sont pris en considération rapidement et de façon continue. Ainsi, la Loi sert de mécanisme pour trouver une façon de définir des normes environnementales qui tiennent compte des effets combinés et interactifs de la croissance et du développement dans une région<sup>3</sup>. Ce n'est pas le seul exemple au

## Exemples concrets

partage du savoir les plus efficaces suit celle de sociétés ou d'associations professionnelles, l'entraide au transfert de l'information et du savoir réside dans la découverte de façons d'intégrer l'information socioéconomique et environnementale dans l'ensemble des secteurs, des disciplines et des zones de compétence. Même si l'on y parvient et que l'information et les données disponibles sont accessibles, l'information ne sera jamais parfaite. Autrement dit, l'autre principal enjeu, actuel et futur, est de savoir comment nous devrions considérer l'incertitude.

Étant donné les réalités de la gestion dans le cadre des structures de gouvernance actuelles, la gestion de la complexité nécessite de réunir les divers titulaires de données et d'information et les divers gestionnaires, responsables de l'élaboration des politiques et autres réalisateurs de changements, et de s'assurer que les aspects politiques, législatifs, culturels, socioéconomiques et environnementaux pertinents au sein d'une région sont examinés collectivement et que des mesures de gestion adéquates sont organisées et reliées à des interventions réalisables.

**Il existe de nombreuses communautés d'experts et décideurs en matière de planification adaptées au milieu au Canada. (...) Bien que leur objectif varie, ce sont toutes des approches systémiques et participatives et scientifiques fondées sur l'information, du risque et de la planification dans des conditions d'information impartite.**

des gouvernements à coordonner rapidement et efficacement leurs activités et leur savoir. En fait, il existe de nombreuses exemples de gouvernements qui ont duré depuis longtemps, comme les mesures prises à l'échelle nationale pour faire face à la grippe aviaire. Dans de tels cas, les problèmes complexes d'une grande portée et les risques sont gérés au moyen de mesures coordonnées transgouvernementales à grande échelle, organisées rapidement et dirigées par un éventail d'experts disciplinaires. Cette gouvernance adaptée tire parti d'un échange d'information efficace et cible l'« échelle la plus appropriée », contournant les limitations des zones de compétence en vue d'instituer des changements à l'échelle et à la portée voulues.

La capacité d'évaluer l'information, d'élaborer des plans et de définir des échelles appropriées en fonction des problèmes sont examinées et prises en charge est essentielle à la gestion des problèmes hautement complexes (ABE, 2001). Comme la structure disciplinaire des systèmes de communication et de



## Mise en contexte : le besoin en matière de gestion de la complexité

Les choix individuels des décideurs auront toujours des impacts secondaires, tant positifs que négatifs. Beaucoup de ces effets peuvent avoir des impacts sur des secteurs ou des zones de compétence autres que ceux de l'ins-tance décisionnelle en question. Les impacts sont non linéaires – dans ce sens qu'ils sont multipliés ou combinés – et contrebalancent parfois les effets d'autres activités qui se déroulent dans une région. Pour gérer les besoins et les priorités concurrentielles et assurer la durabilité de nos systèmes naturels, de nos collectivités et de notre bien-être socioculturel global, il est essentiel de comprendre l'étendue et la nature des effets cumulatifs, interactifs et combinés des décisions actuelles.

# Le rôle des institutions dans la gestion intégrée

De plus en plus, les impacts de nos approches sectorielles et au cas par cas en matière de planification, de réglementation et de gestion, créent des situations qui révèlent un manque, existant ou naissant, dans nos ressources renouvelables, y compris les ressources renouvelables (comme l'eau). Dans presque tous les cas, il n'existe pas de source ou de cause unique pouvant expliquer ou atténuer ces tendances. En outre, elles ne sont peut-être pas seulement dues aux problèmes existants, mais aussi aux activités breuses activités qui se déroulent dans une région, mais aussi aux activités entreprises dans le passé ou dans des régions éloignées.

Il est difficile de trouver des moyens d'examiner cette complexité sous l'angle du savoir et de l'information. Pourtant, ce n'est pas la seule difficulté que doivent affronter les gestionnaires et les décideurs qui veulent s'attaquer aux enjeux régionaux complexes. Un autre problème de taille réside dans la façon dont la gouvernance actuelle, qui ne favorise pas l'unité sectorielle, limite (et complique) les efforts visant à régler les problèmes d'importance régionale dans une perspective globale. Cela a rarement été fait; le problème des limites dans le contexte de la gestion intégrée (GI) est un obstacle important aux approches globales en ce qui a trait à la gestion de la complexité et du risque (p. ex., Balaguer *et al.*, 2008; Folke *et al.*, 2005; Mitchell, 2005; Pollard et du Toit, 2005). On a eu tendance à créer des lois en réponse à certains problèmes souvent très précis, comme la disparition d'espèces ou le rejet de contaminants, ce qui signifie que la majorité des outils de politique et de gestion ont été établis afin de tenir compte d'objectifs sectoriels très précis et étroitement définis. Peu d'outils sont disponibles pour répondre aux complexités intersectorielles<sup>1</sup>. La GI pourrait favoriser la mise en œuvre de lois existantes.

Dans bien des cas, beaucoup de problèmes du passé persistent aujourd'hui, ce qui signifie que l'attention et les efforts quotidiens des groupes décisionnels demeurent axés sur la gestion réactionnelle des problèmes existants, au lieu de se pencher sur les nouveaux problèmes (Meadowcroft et Bregha, 2009). La capacité de répondre aux nouveaux problèmes complexes dépend de la capacité

deuxième réseau réunit des journalistes qui couvrent les enjeux de la ruralité et leur permet d'échanger des histoires, des idées et des analyses. Chacun de ces réseaux constitue un auditoire clé pour les recherches menées par le RIMISP et ils sont appuyés par deux sites Internet : les blogs Red Prensa Rural (nd) et Red de Gobiernos (nd). Ces deux réseaux comprennent des membres au Canada, ce qui offre par exemple au Québec une plateforme pour faire valoir son expérience dans le développement d'un pacte rural pour le développement de l'innovation locale. L'équipe du RIMISP a aussi créé des liens avec des chercheurs canadiens, travaillant par exemple avec l'Université de la Saskatchewan pour déterminer comment des cartes et des coalitions similaires pourraient permettre d'expliquer les modèles de développement dans le Nord du Canada et les possibilités offertes aux collectivités autochtones.

## Conséquences pour les politiques

Deuxièmement, les autorités supérieures (qu'il s'agisse des gouvernements nationaux ou des agences de développement) doivent considérer les effets de leurs politiques en différents lieux. Les politiques nationales ne peuvent couvrir tous les cas; elles doivent atteindre un équilibre entre des orientations significatives et la capacité des intervenants locaux de les adapter aux possibilités locales. Les gouvernements nationaux et ceux des provinces ou des États peuvent jouer un rôle double, en favorisant l'innovation tout en aiguillonnant les coalitions

ronnement local et à y réagir.

## Références

- locales pour éviter la myopie qui porte à favoriser les gains à court terme aux dépens de l'environnement local.
- À l'approche de l'échéance des Objectifs de développement du millénaire des Nations Unies, les gains futurs reposent de plus en plus sur l'examen des foyers de pauvreté et d'inégalité à l'échelle sous-nationale afin de déterminer ce qui alimente le développement dans des lieux particuliers. Les approches locales montrent comment les politiques et les pratiques différentes interagissent. Par exemple, l'évolution des conditions environnementales influence les possibilités économiques et sociales. En bref, il est nécessaire d'aller au-delà des moyennes nationales. La cartographie et l'étude des territoires ruraux constituent l'une de ces approches. ●
- Elbers, C., J.O. Lanjouw, and P. Lanjouw. 2002. *Micro-Level Estimation of Welfare*. Policy Research Department Working Paper 2911. Washington DC: The World Bank. <<http://econ.worldbank.org/>>.
- Red de Gobiernos Subnacionales para el Desarrollo de los Territorios Rurales Latinoamericanos. nd. Web site. <<http://redgobiermos.org/>>.
- Red Prensa Rural. nd. Blog. <<http://redprensa.rural.com>>.
- World Bank. 2008. World Development Report 2009 – Reshaping Economic Geography. World Bank.



de l'Atlantique génétiquement similaires, une situation qui a favorisé la transmission rapide des infections. En 2008, répandue dans la région, décimant les stocks. En moins d'un an, le tiers de la main-d'œuvre était sans travail et les perspectives de poursuite du développement s'étaient grandement assombries.

## Toucher l'auditoire

En plus de coordonner les recherches, le RIMISP s'engage activement auprès du milieu des politiques dans les Amériques et ailleurs. Le RIMISP a notamment établi deux réseaux afin de joindre les parties intéressées pour qu'elles puissent apprendre de ces recherches et agir sur les éléments qui en découlent. Le premier réseau réunit les premiers ministres des provinces et les gouverneurs des États des Amériques dans le cadre de rencontres et de visites d'étude annuelles. Le

En bref, le succès apparent de Chiloe est un avertissement. La coalition formée de l'industrie, de la population et du gouvernement a investi dans l'optimisation de l'aquaculture et supposé que les gains pouvaient être soutenus au fil du temps. Pourtant, la croissance économique rapide conjuguée à la baisse de la pauvreté et de l'inégalité n'a pu être obtenue qu'au prix de la dégradation rapide de l'environnement local afin de soutenir l'économie du saumon.

Les chercheurs du RIMISP continuent de compiler des études de cas détaillées dans d'autres sites en Amérique centrale et en Amérique du Sud. Une fois ces études complétées, l'équipe de recherche sera en meilleure position pour évaluer si une telle myopie institutionnelle est largement répandue et pourra déterminer si les gains dans le développement humain peuvent coexister avec une amélioration de la qualité de l'environnement local.

Pourtant, cette coalition est en même temps un exemple de myopie institutionnelle, par son incapacité à détecter les menaces potentielles et à y réagir. Malgré une pollution marine croissante au fil de la décennie, peu de mesures ont été prises puisqu'il était attendu que l'industrie s'autorégulerait. En même temps, le nombre croissant de fermes a créé des populations denses de saumons

Il en est résulté une coalition stable, un arrangement institutionnel bénéfique à toutes les parties. Les sociétés ont prospéré à l'ombre de politiques qui ont permis à l'industrie de croître, le nombre d'emplois offerts à la population a augmenté et le gouvernement a reçu le soutien des entreprises et des électeurs.

Les gouvernements ont adopté nombre de politiques visant à favoriser la croissance de l'industrie. Ils ont d'abord permis la privatisation du droit d'accès aux zones côtières. L'octroi de ces droits permettrait d'offrir une plus grande certitude et de meilleures garanties aux investisseurs privés dans les fermes d'élevage. En deuxième lieu, on a permis à l'industrie de réglementer elle-même ses répercussions environnementales. Troisièmement, il y a aussi eu des investissements publics; le gouvernement chilien a construit des routes et des parcs industriels pour l'expédition et la transformation du saumon tout en appuyant les activités de recherche et d'éducation visant à fournir des connaissances et des travailleurs à l'industrie de l'aquaculture.

sements et de nouveaux emplois, la population a voté et donné son appui au gouvernement local.

Ce succès a entraîné la création d'une coalition entre les entreprises de salmiculture, la population locale et le gouvernement. L'aquaculture était à l'origine dominée par des entreprises chiliennes, mais des investisseurs de la Norvège et d'autres pays européens ont rapidement repris la plus grande partie de l'industrie. Avec la promesse de nouveaux investissements, l'analyse de régression mon-

ne montrent pas les moyennes nationales. En poussant plus loin les recherches, l'analyse de régression montre que ce modèle de développement ne peut pas être facilement expliqué par des investissements dans les infrastructures, l'éducation ou l'électrification. Il s'est passé quelque chose d'autre dans ces régions, qui méritent un examen plus poussé.

## Saumon et emplois sur l'île Chiloe

Il existe une dynamique importante que ne montrent pas les moyennes nationales. En poussant plus loin les recherches, l'analyse de régression montre que ce modèle de développement ne peut pas être facilement expliqué par des investissements dans les infrastructures, l'éducation ou l'électrification. Il s'est passé quelque chose d'autre dans ces régions, qui méritent un examen plus poussé.

- Les politiques nationales ne peuvent couvrir tous les cas; elles doivent atteindre un équilibre entre des orientations significatives et la capacité des intervenants locaux de les adapter aux possibilités locales.

## Nouvelle géographie

structure de l'économie locale.

en étroite collaboration avec des personnes vivant sur des terres peu productives, qui sont habituellement exclues du développement national, et tentent de faire en sorte que ces personnes bénéficient des recherches menées par le RIMISP. L'hypothèse qui sous-tend le programme actuel dans les territoires ruraux est que les résultats de développement sont influencés par les changements dans les institutions locales et la structure de l'économie locale.

À l'échelle mondiale, on constate un renouveau d'intérêt envers la distribution spatiale des résultats de développement. Beaucoup de choses ont été dites sur l'importance économique et politique croissante de l'Inde et de la Chine, et pourtant ces pays ne représentent que la pointe de l'iceberg des nouvelles perceptions en matière de développement international et rural. L'édition 2009 du *Rapport sur le développement dans le monde* de la Banque mondiale (2008) se penche sur les interactions entre l'augmentation de la densité de population, le rapprochement des possibilités économiques et l'abaissement des obstacles à la circulation des personnes, des biens et des idées. En même temps, l'Internet offre aux chercheurs un accès sans précédent aux données sur les divisions administratives locales qui ne relèvent pas de l'administration nationale. Ces données offrent aux analystes une plus grande liberté dans l'exploration de dynamiques plus nuancées à l'échelon des régions, des comtés, des municipalités et des districts.

La cartographie de la croissance économique, de la pauvreté et de l'inégalité dans le centre du Chili montre que certaines municipalités ont obtenu des résultats de développement comparables à ce qu'on retrouve en Europe, alors que d'autres affichent des résultats qui se rapprochent davantage des conditions qui

## Un nouveau regard sur l'Amérique latine

vrété et l'inégalité.

prévalent en Afrique. En bref, les comparaisons se rattachant tant au monde industriel qu'aux pays en développement existent à l'intérieur des frontières nationales. Tourner son regard vers l'intérieur pour voir où se produit le développement offre un point de départ pour la compréhension de la dynamique interne régissant la croissance, la pauvreté et l'inégalité.

Avec le soutien du Centre de recherches pour le développement international (CRDI) du Canada, le RIMISP a coordonné la compilation de données sur locales dans onze pays d'Amérique centrale et d'Amérique du Sud. Les paritaires nationaux ont participé directement aux travaux dans chacun de ces pays. L'équipe du RIMISP a mis l'accent sur trois indicateurs de développement : la croissance économique, mesurée par le revenu par habitant, l'incidence de la pauvreté, mesurée par le pourcentage de ménages sous le seuil de la pauvreté et l'inégalité, établie par le coefficient de Gini, lequel mesure la distribution du revenu.

En raison des différences dans les méthodes employées par les organismes de statistique de chacun des pays pour la collecte des données, les résultats ne sont pas strictement comparables entre les pays. L'équipe de recherche souhaitait également inclure des indicateurs de qualité de l'environnement, mais ces derniers se sont révélés plus difficiles à trouver et n'étaient pas aussi largement disponibles pour tous les sites d'étude. Les données sont malgré tout suffisantes pour les objectifs de l'équipe du

RIMISP, qui souhaitait recenser les succès potentiels : les régions affichant, à terme, une amélioration qualitative pour chacun des trois indicateurs. L'équipe du RIMISP a utilisé des cartes pour recenser les sites méritant de faire l'objet d'études de cas visant à déterminer les moteurs du développement dans ces régions.

Les cartes nationales ont été produites à l'aide des estimations relatives aux secteurs restreints, une technique économique combinant les données tirées du recensement national et des enquêtes auprès des ménages (Ellbers *et al.*, 2002). Les cartes indiquent qu'une *municipalidad* sur dix (un territoire correspondant à celui d'un comté au Canada) a gagné sur les trois tableaux, affichant une croissance économique accompagnée d'une baisse de la pauvreté et de l'inégalité.

Commentant chez elle, l'équipe du RIMISP a cartographié les données pour le Chili, un pays largement considéré comme un succès du développement. Les deux tiers des *municipalidades* affichent une baisse de la pauvreté ou de l'inégalité en l'absence de croissance économique, ce qui donne à penser que ces gains résultent davantage des transferts et des programmes sociaux que de la dynamique interne du développement. Entre temps, le succès national semble reposer davantage sur les cinq pour cent des régions cartographiées qui montrent une amélioration simultanée au triple plan de l'économie, de la pauvreté et de l'inégalité.

Dans les onze pays étudiés, les régions qui ont connu du succès sur les trois tableaux (croissance économique avec réduction de la pauvreté et de l'inégalité) comprenaient ensemble plus de 27 mil-



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Le Centre latino-américain de développement rural (RIMISP), une organisation régionale située à Santiago au Chili, a lancé l'étude des territoires ruraux. Depuis 1986, le RIMISP est à la pointe de la connaissance sur les changements influant sur les collectivités rurales. Le Centre mène ses propres recherches, forme de jeunes professionnels et coordonne un programme de recherche avec de nombreux partenaires dans toute l'Amérique centrale et l'Amérique du Sud. Les chercheurs du Centre travaillent

Au cours des deux dernières décennies, des chercheurs en Amérique latine ont raffiné la notion de « territoires ruraux » : des zones spatiales combinant l'activité économique et un sentiment collectif d'identité sociale. Les territoires ruraux se construisent sur l'idée de systèmes agricoles, ou sur l'étude de fermes faisant face aux mêmes possibilités et contraintes en termes de cultures, de sols, de technologie et de moyens de subsistance. Un territoire rural comprend le paysage culturel par un groupe de personnes, leurs activités économiques et leurs relations avec l'économie, la société et l'environnement avoisinants. Bien que certains territoires ruraux soient basés sur l'agriculture, d'autres reposent sur la pêche, la foresterie, les mines, le tourisme, l'industrie manufacturière ou des combinaisons d'activités. Ce sont par exemple des régions productrices de café en Colombie, de canne à sucre et d'agriculture irriguée aux environs de Petrolina-Juazeiro au Brésil ou qui s'appuient sur les mines et l'agriculture, comme à Michoacán au Mexique. Chacun de ces territoires ruraux comprend une économie distincte, avec une dynamique particulière qui alimente le développement à l'échelle locale.

## Approche

compréhension de ce qui permet à certains territoires ruraux de prospérer alors que d'autres stagnent.

# Équilibre géographique : nouvelles perspectives sur le développement rural en Amérique latine

Les frontières entre le développement international et la politique intérieure deviennent de plus en plus floues. Alors que le premier s'intéresse aux différences touchant la croissance, à la pauvreté et aux inégalités entre les pays, la seconde traite de ces mêmes questions à l'intérieur des frontières. Dans l'ensemble des Amériques, du Canada au Chili, une nouvelle génération d'enquêteurs de données apporte aux chercheurs une autre perspective sur la façon dont les possibilités de développement varient et sur les raisons pour lesquelles différents endroits bénéficient (ou non) de politiques nationales. Déterminer le lieu où le développement connaît le succès constitue la première étape dans la

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- la gestion des ressources naturelles dans les régions éloignées et du nord de l'Australie;

- les compétences, le savoir et l'impli-

Le nouveau gouvernement fédéral a insisté sur le besoin d'adopter une approche commerciale pour l'investissement et de mieux cibler les priorités nationales. Pendant la période de transition 2008-2009, le programme a promis aux organismes régionaux qu'ils recevraient au moins 60 p. 100 de l'allocation annuelle moyenne reçue du gouvernement fédéral dans le cadre de NHT2 et de NAP (Australia, CfoC, 2009b). Il a mis en place une approche plus concurrentielle au financement grâce à la mise en place d'un processus transparent de subventions « pour donner aux organisations non gouvernementales, aux organismes régionaux, aux gouvernements locaux et aux organismes fédéraux des États, des territoires et de l'administration fédérale la possibilité d'entrer en compétition pour obtenir une part plus importante des financements » [traduction] (Australia, CfoC, 2009a). Certains organismes régionaux ont dû revoir à la baisse leurs effectifs en raison de la diminution des ressources.

Le programme a une portée moins grande que celle du NHT2 et du NAP. Le caractère central des plans GRN régionaux comme plateforme d'allocation des fonds a perdu du terrain, tout comme les approches intégrées à la gestion des bassins hydrologiques. Beaucoup plus de fonds sont dirigés vers des groupes locaux individuels non liés aux processus d'établissement des priorités régionales. On privilégie désormais le court terme et les gains tangibles, au détriment de solutions à des problèmes complexes nécessitant une réflexion et des solutions intégrées.

## Conclusion

Nous avons examiné dans cet article le potentiel des programmes nationaux à servir de mécanisme pour l'intégration, à l'échelle nationale, de structures décen-

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Le NHT2 et le NAP ont été essentiels pour mener à bien la mise sur pied des régions GRN et leurs structures de gestion dans toute l'Australie. Ils sont à l'origine de certains amendements à la loi dans les États et les territoires, ainsi que de la restructuration des organismes gouvernementaux et des programmes de recherche. L'approche adoptée pour la prestation des programmes a cependant fait perdre leur autonomie à certains groupes d'individus et d'intervenants, notamment les groupes locaux devant désormais gérer une bureaucratie plus lourde et un accès aux ressources moins aisé que par le passé. Les programmes ont aussi réduit le rôle des organismes d'État, grâce à l'établissement d'un réseau de facilitateurs régionaux, d'un réseau de facilitateurs régionaux par le gouvernement fédéral (auparavant employés par des organismes d'État ou territoriaux) et relevant directement de l'administration centrale.

**Caring for our Country**

Lors de l'arrivée du nouveau gouvernement fédéral en 2007, le programme *Caring for our Country* (CfoC) fut mis en place afin de remplacer le NHT2 et le NAP, dont la fin était prévue en juin 2008. Le programme, qui apporte un financement de 2,25 milliards de dollars australiens de 2008-2009 à 2012-2013, prend en compte six grandes priorités :

- le système des réserves nationales;
- la biodiversité et les monuments naturels, y compris les plantes nuisibles, le contrôle des animaux returnés à l'état sauvage et les espèces en péril;
- les environnements côtiers et les habitats aquatiques vitaux;
- les pratiques agricoles durables, y compris la protection des terres;

tion des terres et des ressources en eau buant à des problèmes de salinité et de qualité de l'eau dans d'autres régions.

À l'image du NHT1, tant le NHT2 que le NAP reposaient sur la signature d'ententes bilatérales entre le gouvernement fédéral et les États et territoires. Il s'agissait d'un long processus, qui fut contesté dans certaines régions (NHT2 : décembre 2002 à juin 2004; NAP : juin 2001 à septembre 2003). En vertu de ces accords, les organismes GRN régionaux furent chargés du développement, de la mise en œuvre et de la surveillance des plans GRN régionaux et des stratégies d'investissement. Dans certaines régions du pays, il fallait créer des organismes régionaux afin d'accéder aux ressources disponibles.

Un plan GRN régional était nécessaire afin d'identifier les secteurs devant faire l'objet d'une protection (réseaux d'aqueduc des villes, milieux humides, forêts...) et d'établir et surveiller des cibles (cibles souhaitables, état des ressources réalisable et mesures de gestion). Il fallait présenter avant 12 mois les plans régionaux et les stratégies d'investissement pour recevoir l'accord du gouvernement fédéral. Pendant cette période, plusieurs groupes locaux se sont retrouvés sans le soutien sans ressources pour appuyer leurs activités. Avec l'accord en main, l'organisme régional pouvait attribuer des ressources (aux groupes de protection des terres p. ex.) dans le cadre du plan approuvé. L'adoption d'une approche plus ciblée et d'activités à plus grande échelle a fait en sorte que certains groupes locaux sont devenus inadmissibles ou ont été jugés peu prioritaires pour le financement, tandis que les groupes situés dans les zones prioritaires ont reçu des financements conséquents.

Tandis que s'achevaient le NHT1 et la le National Land and Water Resources Audit (Australia, LWA, nd) a réuni un ensemble solide de preuves justifiant le besoin accru de mesures et de ressources pour trouver des solutions aux problèmes de dégradation des ressources naturelles au pays. Au même moment, il est apparu évident que les mesures prises à l'échelle locale ne pouvaient, à elles seules, provoquer le changement nécessaire pour gérer ces problèmes. L'approche locale en matière de protection des terres, jugée fructueuse pour sensibiliser les collectivités et susciter leur engagement, s'est montrée insuffisante pour parvenir à un changement coordonné et à grande échelle. Il fallait donc que les politiques envisagées puissent accorder plus d'importance à la planification et aux approches régionales.

**Le Natural Heritage Trust Extension et le National Action Plan for Salinity and Water Quality**

Le *Natural Heritage Trust Extension* (NHT2) a investi 1,75 milliard de dollars australiens sur six ans (2002-2003 à 2007-2008) en appui à la restauration et à la conservation des ressources environnementales et naturelles de l'Australie, par l'entremise de la conservation de la biodiversité, de l'utilisation durable des ressources naturelles, du renforcement des compétences communautaires et du changement institutionnel. Au même moment, le *National Action Plan for Salinity and Water Quality* (NAP) a investi 1,4 milliard de dollars australiens sur huit ans (2000-2001 à 2007-2008) dans 21 régions prioritaires (comprénant au moins certaines parties des 30 régions GRN) comme étape préliminaire pour parvenir à des améliorations systémiques majeures en matière de ges-

végétation par exemple — sont souvent plus déterminantes que celles des bassins versants à proprement parler.

Les organismes décentralisés s'inscrivent, en Australie, dans un cadre national, contrairement à ce qui se fait au Canada. En effet, des structures de gouvernance décentralisées ont été créées pour répondre aux besoins et aux préoccupations diverses des provinces et des territoires (mentionnons, entre autres, les conseils consultatif et de planification des bassins versants de l'Alberta, le conseil du bassin de la Fraser en Colombie-Britannique, les districts de conservation au Manitoba, les offices de protection de la nature en Ontario, ou encore les organisations de bassin versant du Québec). Robins (2007) a identifié 115 organismes décentralisés au Canada ayant des responsabilités dans la gestion des bassins versants comme pouvant servir de base pour des structures et des capacités nationales de gouvernance susceptibles d'être mieux élaborées. Robins et de Loë (2009) établissent une comparaison avec l'Australie en ce qui concerne les difficultés en matière de capacités.

On trouvera ci-dessous une description des programmes nationaux ayant été au cœur de l'émergence des structures décentralisées mentionnées plus haut.

## Le National Landcare Program

Le lancement du *National Landcare Program* (NLP) et, par la même occasion, de la décennie de la protection des terres par le gouvernement fédéral australien en 1990 a été un tournant dans la gestion des terres et des ressources en eau. Le programme a apporté son appui à la formation et aux activités des groupes de protection locaux soucieux d'améliorer la gestion des terres et des ressources en eau. Pour Campbell (1994), par « land-care » (protection des terres), on entend des propriétaires fonciers travaillant de

concert avec le gouvernement en vue de résoudre des problèmes locaux. Il s'agit d'un changement d'orientation, le fermier et son exploitation cédant la place au financement de groupes communautaires locaux et à l'établissement de liens et de réseaux dans la collectivité. De même, il s'agissait désormais de trouver des solutions à des enjeux multiples, et non plus de s'attacher à un seul enjeu. Le NLP faisait suite aux succès remportés par les initiatives gouvernementales des États de Victoria et de l'Australie-Occidentale. Il se voulait une réponse au lobbying mené conjointement par l'Australian Conservation Foundation et la National Farmers' Federation auprès du gouvernement fédéral.

En quatre ans seulement, environ un tiers des familles d'exploitants agricoles du pays ont intégré plus de 2 000 groupes de protection des terres (Campbell, 1994). Ce véritable phénomène de société a été appelé « the landcare movement » (le mouvement de protection des terres). On compte aujourd'hui près de 4 500 groupes de protection des terres regroupant environ 40 p. 100 des exploitants agricoles (Australia, DAFF, nd). Ce modèle a été adopté dans d'autres pays, notamment la Nouvelle-Zélande, l'Afrique du Sud et les Philippines (on citera pour le Canada l'organisme Land Care Niagara). La protection des terres est la pierre angulaire sur laquelle repose l'approche australienne en matière de gestion des terres et des ressources en eau. Sa popularité et la large participation qu'elle suscite expliquent que le NLP ait été intégré comme sous-ensemble des programmes nationaux qui ont suivi, notamment l'initiative actuelle appelée *Caring for our Country* (189 millions de dollars australiens sur cinq ans, pour un budget total d'environ 2,25 milliards de dollars).

## Le Natural Heritage Trust

Alors que la décennie consacrée à la protection des terres en était à mi-parcours, le gouvernement fédéral en place a perdu les élections. Le nouveau gouvernement avait promis d'accroître les ressources de manière importante pour la gestion des terres et des ressources en eau, en sapuyant sur la vente partielle des actifs de Telstra (une entrepris de télécommunication appartenant à l'État). Fruit de cette promesse, le *Natural Heritage Trust* (NHT) fut mis sur pied pour apporter des solutions aux problèmes environnementaux urgents à tous les échelons. Le programme chapeautait une série d'initiatives fédérales, dont les programmes de protection des terres, de la brousse et des côtes. Une somme de 1,25 milliard de dollars australiens a été investie sur cinq ans (1997-1998 à 2001-2002).

Le NHT s'est avant tout efforcé de répondre au besoin d'une meilleure intégration des problèmes (plantes nuisibles, salinité, érosion des sols) et des disciplines scientifiques (sociales, culturelles, économiques, écologiques). Contrairement aux programmes précédents, une approche plus commerciale a été privilégiée, avec une plus grande importance accordée à la surveillance et à l'évaluation. Les processus pour les demandes de financement et l'évaluation ont été renforcés. De nouvelles dispositions sur la reddition des comptes ont nécessité un renforcement de la collecte, de l'analyse et de la communication des données. Les groupes communautaires locaux étaient cependant mécontents de la lourde charge de travail et des retards de financement; certains d'entre eux ont dû cesser leurs activités. Les organismes régionaux existants étaient souvent dans de mauvaises positions pour respecter les exigences croissantes concernant les applications, la justification et la comparabilité des projets.





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## Résumé

Cet article porte sur les 56 organismes régionaux australiens désignés auxquels ont été dévolues des responsabilités dans la gestion des terres et des ressources en eau. Il porte également sur les programmes nationaux qui ont étayé leur création et leur développement. Les gouvernements australiens ont, ces 20 dernières années, introduit peu à peu la décentralisation au domaine de la gestion des bassins versants. La redistribution des impôts collectés à l'échelle nationale vers les programmes nationaux a permis le transfert graduel du pouvoir des États et des territoires vers le gouvernement fédéral, tout en renforçant de manière diverse l'autonomie des partenaires locaux et régionaux. Ce faisant, les gouvernements fédéraux (et les programmes nationaux) ont mis en

# Subventions nationales : un mécanisme pour l'intégration de structures de gouvernance décentralisées pour la gestion par bassins versants

place) ont encouragé une plus grande intégration des volets biophysiques, sociaux et économiques de la gestion des bassins hydrologiques. On examinera ici un certain nombre de pro-

## Le modèle régional

La constitution australienne, comme celle du Canada, confère aux États (ou aux provinces) et aux territoires l'essentiel des compétences en matière de gestion des terres et des ressources en eau. Les méthodes de planification, de mise en œuvre et de communication des résultats dans les six États australiens (Nouvelles-Galles-du-Sud, Queensland, Australie Méridionale, Tasmanie, Victoria et Australie Occidentale) et les deux territoires (Territoire de la capitale de l'Australie et Territoire du Nord) sont diverses et changeantes.

grammes nationaux illustrant ces structures décentralisées mises en place pour la gestion des bassins versant : il s'agit du *National Landcare Program*, du *Natural Heritage Trust*, du *National Action Plan for Extension*, du *National Water Quality and Salinity* et, enfin, du programme *Caring for our Country*. L'importance accordée aux structures décentralisées a été revue à la baisse depuis la formation en 2007 d'un nouveau gouvernement fédéral qui, dans le cadre du programme *Caring for our Country*, a insisté sur le besoin d'adopter une approche commerciale pour les investissements et de mieux cibler les priorités nationales. Davantage de ressources ont donc été versées directement aux groupes locaux (plutôt qu'aux organismes régionaux). Des mesures ont été prises pour permettre aux organisations non gouvernementales, aux organismes régionaux et aux organismes gouvernementaux (locaux, étatiques, territoriaux et fédéraux) de « lutter » pour obtenir une part plus importante du financement. Cela a conduit de nombreux organismes régionaux à réduire leurs activités; leur capacité à collaborer avec les groupes locaux et à poursuivre une approche intégrée à la gestion des bassins versants a été affaiblie.



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- qui suivront compliqueront la gestion écosystémique et les autres initiatives adaptées au milieu. En Floride, par exemple, les chercheurs constatent que l'élévation du niveau de la mer suscite des incertitudes importantes quant au plan de remise en état des Everglades et compromettira fort probablement un grand nombre de projets qui ont été entrepris ou qui sont déjà prévus. Le caractère inévitable du changement climatique permet de penser que les initiatives de gestion écosystémique devraient être encore plus préventives sur le plan de l'environnement qu'elles ne le seraient normalement, afin d'assurer la résilience des systèmes naturels face à des agressements extraordinaires.

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## Conclusions

En résumé, la gestion écosystémique laisse espérer des résultats supérieurs à ceux atteints au moyen des approches conventionnelles de gestion des ressources naturelles. Si elle est prise au sérieux, elle offre la possibilité de vérifier les hypothèses qui sous-tendent l'idéal en matière de développement durable : qu'il est possible de concilier le bien-être social et économique avec la salubrité de l'environnement. Jusqu'à présent, la majorité des initiatives de gestion écosystémique aux États-Unis cadre davantage avec un « certain développement durable » — une écologisation superficielle des pratiques conventionnelles — qu'avec un véritable engagement de transformation sociale et économique. Dans la mesure où la gestion écosystémique ne parvient pas à atteindre en pratique les résultats prévus en théorie, cela est souvent dû à un manque d'engagement sérieux des dirigeants locaux ou régionaux à l'égard de la restauration écologique, et à la réticence à avoir recours à une réglementation sévère.

Le changement rapide des climats local et régional ainsi que les ajustements des comportements écologiques et humains

ils ne le font pas.

dans la majorité des cas aux États-Unis, projets de gestion écosystémique, mais





face à la nouvelle information. Cela est dû en partie au fait que les plans minimalistes laissent peu de place à des ajustements, mais aussi au fait que le financement de la gestion et de la surveillance est insuffisant. Quoi qu'il en soit, l'acquisition du savoir des chercheurs ne se concrétise pas automatiquement en nouvelles pratiques de gestion et les gestionnaires qui ont des missions incompatibles avec la restauration écologique ont tendance à poursuivre leurs pratiques adaptées aux utilisations lors que les conditions politiques changent. Cette intransigence peut refléter la force de la mission et de la culture organisationnelles qui, de leur côté, influencent le choix des principaux bénéficiaires dans l'organisation et la façon dont les récompenses sont distribuées; dans certains cas, cela peut résulter d'un changement de priorités parmi les chefs administratifs nommés pour des raisons politiques.

En revanche, quand les responsables de l'élaboration des politiques — les représentants élus, les administrateurs ou les juges — appuyaient un objectif de protection de l'environnement et avaient recours à des moyens réglementaires pour empêcher les intérêts de développer

Dans les cas où les responsables de l'élaboration des politiques s'en sont remis à des intervenants pour l'établissement d'objectifs, il semblait peu probable que les politiques et les pratiques qui s'en sont dégagées conservent ou restaurent la santé écologique, puisque, pour parvenir à un consensus, les planificateurs ont évité les compromis et ont plutôt opté pour des solutions satisfaisant toutes les parties. Les plans qui en résultent comportent généralement des approches fortement axées sur la gestion offrant peu de capacité tampon; par conséquent, ils imposent un risque de dérangement sur le système naturel. Une mise en œuvre souple et adaptative n'a pas compensé les faiblesses de ces plans dangereux pour l'environnement et, en fait, les a parfois exacerbés. Notamment, un engagement théorique de gestion adaptative, nécessaire tant la conception d'interventions de gestion visant à vérifier des hypothèses clairement formulées sur le comportement du système, la surveillance des résultats de ces interventions et la modification des pratiques de gestion en fonction de l'information glanée grâce à la surveillance, ne s'est pas concrétisé par une volonté de modifier les politiques

**Le changement rapide des climats local et régional ainsi que les ajustements des comportements écologiques et humains qui suivront compliqueront la gestion écosystémique et les autres initiatives adaptées au milieu.**

actions qui menacent les intervenants de haut niveau. Certains critiques ont allégué que la gestion écosystémique drainerait les ressources limitées attribuées à des outils comme les procédures administratives d'appel, les poursuites et les campagnes de relations publiques, qui, depuis toujours, sont les armes les plus efficaces des environnementalistes, ou les rendrait inutilisables.

Ma propre recherche tend à indiquer que, malgré les avantages importants de la gestion écosystémique, certaines préoccupations des critiques sont justifiées. Une comparaison très poussée de quatre initiatives importantes de gestion écosystémique avec trois cas similaires révèle que la planification à l'échelle du paysage incite effectivement les planificateurs à adopter des approches plus globales des problèmes environnementaux et donne lieu à de nouvelles formes de coordination entre des organismes et des autorités disparates. Dans tous les cas examinés, les planificateurs ont commandé des évaluations scientifiques intégratives, qui, pour leur part, ont élargi leur conception des relations entre les éléments et les fonctions du paysage. Dans bien des cas, ils ont également essayé de nouveaux outils de gestion — souvent par suite d'une interaction avec des collèges d'autres organismes ou autorités. Cependant, les effets positifs de la collaboration avec les intervenants et d'une mise en œuvre souple et adaptative sont plus difficiles à cerner.

- 5 J'ai comparé quatre initiatives de gestion écosystémique parfaitement au point — le plan de conservation des Balcones Canyonlands, le programme de conservation d'espèces multiples de San Diego, le plan de remise en état des Everglades et le programme du delta de la baie de Californie — avec trois initiatives à l'échelle du paysage qui ne reposaient pas sur une planification consensuelle : le plan de conservation du désert de Sonora, le plan de remise en état de la rivière Kissimmee et la remise en état du bassin de Mono. Mes conclusions concordent avec quelques évaluations moins systématiques d'initiatives communes de gestion environnementale à grande échelle (Lazer, 2008).
- 6 Par exemple, dans la région du delta de la baie de Californie, les organismes d'État et fédéraux responsables de la distribution de l'eau dans les fermes et les villes, qui ont coopéré avec les organismes responsables de la conservation de l'environnement, ont de nouveau amorcé des négociations exclusivement avec les utilisateurs d'eau à la disparition du programme collaboratif de la CALFED (CALFED est un département de la Californie Resources Agency qui agit en tant que consortium et coordonne les activités du gouvernement fédéral et de l'État de la Californie relatives à l'eau dans la région du delta Sacramento-San Joaquin.) (Lazer, 2008).

- 2 L'*Endangered Species Act* interdit les actions qui pourraient mettre en péril la survie des espèces en voie de disparition.
- 3 En 1982, des modifications à l'*Endangered Species Act* ont permis la création de plans de conservation des habitats, dans lesquels les propriétaires pouvaient « prendre » certaines espèces pour avoir amélioré la viabilité globale des espèces grâce à la conservation des habitats.
- 4 En raison de leur ampleur et de leur portée, la grande majorité des projets de gestion écosystémique sont pilotés par les autorités fédérales, étatiques ou locales. Les processus collaboratifs mis en place par des intervenants qui visent à faire face aux problèmes environnementaux de façon globale ont également prospéré durant cette période. Le politologue Ed Weber (2003) a documenté trois initiatives importantes de ce type.

Dans les années 1990, en raison de l'énorme attrait de la gestion écosystémique, un grand nombre d'organismes non gouvernementaux, de sociétés professionnelles, d'organismes fédéraux et de représentants de l'État ont endossé le concept (p. ex., Beatie, 1996; Christensen *et al.*, 1996; Dornbeck, 1996; IEMTF, 1995; NAPA, 1995; US PCSD, 1996; SAF, 1992; Thomas, 1996; US EPA, 1994; Western Governors' Association, 1998). Dans les années 2000, des professionnels et des intervenants ont commencé à préconiser également la gestion écosystémique des systèmes maritimes (McLeod *et al.*, 2005; Pew Oceans Commission, 2003; US Commission on Ocean Policy, 2004).

Les promoteurs de la gestion écosystémique n'ont cependant pas attendu l'approbation des experts avant de se livrer à des essais. En 1983, la US Environnement

Simultanément, des initiatives de gestion écosystémique en milieu terrestre ont vu le jour à travers le pays, mais en particulier dans l'ouest, incitées par des inscriptions potentielles à l'*Endangered Species Act* (ESA)<sup>2</sup>. Les villes et les comtés du sud-ouest ont entrepris l'élaboration d'une variété de plans de conservation des habitats (PCH)<sup>3</sup>. En 1985, le Fish and Wildlife Service a approuvé le PCH de la vallée de la Coachella; au début des années 1990, la ville d'Austin et le comté de Travis au Texas ont élaboré le plan de conservation des Balcones Canyonlands; et le comté de Clark, au Nevada, a travaillé avec la ville de Las Vegas à l'élaboration du PCH du comté de Clark. En 1991,

## Une évaluation de la gestion écosystémique

L'État de la Californie a créé son programme de conservation du milieu naturel; peu de temps après, le comté de San Diego et d'autres comtés de la Californie du Sud ont établi une série de projets pilotes afin de s'attaquer à la perte rapide de l'habitat des buissons de sauge côtiers. D'autres projets menés par des intervenants ont également vu le jour; le Quincy Library Group, par exemple, formé en 1993, qui a travaillé à l'élaboration d'un plan visant à concilier l'exploitation forestière et la conservation de la biodiversité dans une partie de la Sierra Nevada en Californie<sup>4</sup>.

tal Protection Agency a lancé le Chesapeake Bay Program, regroupant la Virginie, le Maryland, la Pennsylvanie, et le district de Washington dans le but de rétablir ce qui avait déjà été l'un des estuaires les plus productifs du monde. En 1991, des planificateurs des autorités fédérales, étatiques et locales ont lancé une initiative d'envergure visant à restaurer les Everglades, une région marécageuse gravement dégradée du sud de la Floride. Quelques années plus tard, une autre initiative similaire était entreprise en Californie du Nord, où la dégradation rapide du delta Smelt avait laissé entrevoir l'affaiblissement du delta de la baie de Californie. D'autres processus de remise en état d'importants bassins hydrologiques ont aussi été mis en place, notamment le projet de gestion de l'écosystème du bassin du Columbia et le processus de planification du bassin versant de la rivière Platte.



Depuis les vingt dernières années, le concept de gestion écosystémique en est venu à dominer la

théorie et la pratique de la gestion des ressources naturelles aux États-Unis et ailleurs<sup>1</sup>. Bien que les définitions varient, la majorité des initiatives de gestion écosystémique comportent trois éléments : une orientation à l'échelle du paysage, une planification collaborative faisant appel à tous les intervenants et une mise en œuvre souple et adaptative des objectifs de planification (Cortner et Moore, 1999; Grumbine, 1994, 1997; Keiter, 1998). Aux États-Unis, ces initiatives ont eu une variété de retombées, y compris une compréhension plus approfondie des écosystèmes à grande échelle et une meilleure coordination entre les organismes et les autorités au sein de ces écosystèmes. Cependant, la collaboration entre les intervenants et une mise

# La gestion écosystémique aux États-Unis

en œuvre souple peuvent compromettre les avantages environnementaux de la gestion écosystémique, à moins que les décideurs ne soient disposés à énoncer un objectif écologique prioritaire et à exercer une influence réglementaire en vue d'assurer l'atteinte de cet objectif.

Contrairement à l'approche réglementaire conventionnelle, la gestion écosystémique est fondée sur l'admission selon laquelle les limites des écosystèmes coïncident rarement avec les limites des compétences politiques. À cette fin, il faut coordonner les activités de compétences et d'organismes aux

Aux États-Unis, la gestion écosystémique a vu le jour à la suite de l'insatisfaction générale à l'égard de l'approche dominante des pratiques de gestion des ressources naturelles et de l'utilisation des terres. Les écologistes et les biologistes en conservation se plaignent que le cadre réglementaire traditionnel traite implicitement les phénomènes indéfinis et complexes comme s'ils pouvaient être séparés en problèmes bien circonscrits, clairement définis et linéaires en matière de cause à effet. De nombreux faits concourent à indiquer que la prise de décisions centralisée qui produit des règles uniformes accompagnées de sanctions en cas de non-conformité a réussi à freiner les pratiques néfastes de très grandes industries. Cependant, la majorité des analystes des politiques croit que ce processus est trop complexe pour régler les problèmes attribuables aux habitudes de la population et des petites entreprises. Beaucoup attirent également l'attention sur les responsabilités politiques du modèle « décider, annoncer, défendre », dans lequel la prise de décisions est litigieuse et crée des clivages, les impasses sont communes et les politiques qui en résultent sont mises en œuvre de façon inadéquate et connaissent des problèmes continus.

## La raison d'être de la gestion écosystémique

1 À la fin des années 1990, le terme « gestion écosystémique » avait remplacé en grande partie le terme original « gestion des écosystèmes », les promoteurs cherchant à mettre l'accent sur la gestion des activités humaines au sein des écosystèmes, plutôt que sur la gestion des écosystèmes en soi.

elles restent souvent marginales par rapport à la méthode de développement traditionnelle.

Enfin, l'Europe peut compter sur de solides bases puisque la quête d'une meilleure reddition de compte et l'ap- prentissage en matière de politiques sont au cœur du concept de politique adap- tée au milieu. Notamment en raison de pressions exercées par l'UE, le recours à des évaluations de politiques est beau- coup plus fréquent, comme en témoi- gnent la mise sur pied de secteurs responsables de l'évaluation au sein des ministères gouvernementaux, la produc- tion systématique de rapports d'évalua- tion dans le cadre du développement et de l'évaluation des politiques publiques et la création de sociétés d'évaluation. On a aussi davantage recours à diffé- rents mécanismes de consultation au moment de la conception et de la rédac- tion des stratégies de développement locales et régionales. En revanche, le recours à l'évaluation n'est pas aussi répandu en Europe qu'en Amérique du Nord. Finalement, les processus d'éva- luation se sont surtout attardés aux pro- cessus plutôt que de tenter de cerner les impacts (ce qui fonctionne) et les résul- tats des évaluations ne sont pas encore suffisamment pris en compte. De manière générale, on peut dire qu'une culture d'apprentissage en matière de politiques n'est pas encore solidement implantée. ●

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de viabilité environnementale. Les exem- ples de stratégies de développement dura- bles réellement intégrées restent rares.

Troisièmement, si la gouvernance à paliers multiples fait maintenant partie intégrante du développement régional en Europe, il existe d'un pays à l'autre des écarts importants dans les niveaux de responsabilité et de pouvoir en matière de développement qui sont dévolus aux régions et aux localités. Dans certains cas, la régionalisation du développement économique n'est pas intégrée (prenons l'exemple des agences de développement régional au Royaume-Uni qui pourraient être abolies par un simple changement de gouvernement) alors que certains gouvernements nationaux centralisent à nouveau certaines facettes des politiques de développement (comme aux Pays-Bas). Selon l'approche de politiques adaptées au milieu, une question fonda- mentale se pose : comment favoriser le développement des capacités des institu- tions aux niveaux local et régional et accroître le capital social? Les opinions et expériences diffèrent quant à la mé- leur façon d'accroître la sensibilisation et la mobilisation des acteurs locaux, de confronter les intérêts particuliers, bâtir des réseaux et intégrer la connaissance issue du milieu local dans la conception de politiques.

Quatrièmement, dans le cadre d'une approche de politiques adaptées au milieu, la géographie des interventions de politiques découlerait des besoins en matière de développement. Dans les faits, il a été difficile jusqu'à présent de faire abstraction des frontières adminis- tratives existantes et de progresser vers la formation de régions fonctionnelles. Si l'on trouve des initiatives intéressantes dans plusieurs pays, où de nouveaux espaces sont créés par le haut (p. ex. les villes-régions) ou émergent de la base (p. ex. la coopération intercommunale),

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## Les enjeux et défis

Si les politiques régionales à travers l'Europe ont indéniablement subi de profondes transformations au cours des deux dernières décennies, plusieurs enjeux posent toujours problème, du point de vue des politiques adaptées au milieu. D'abord, les objectifs de ces politiques ne sont pas toujours énoncés clairement. Comme le fait remarquer Barca (2009), la conceptualisation des politiques et

l'objet des interventions ne distinguent pas toujours explicitement les objectifs en matière d'efficacité (augmenter le revenu et la croissance) des objectifs en matière d'équité (réduire les inégalités), ce qui peut affecter leur versatilité. Certains concepts en vogue, comme la compétitivité, la productivité, l'innovation et l'entrepreneuriat ne sont pas toujours bien définis et assortis de cibles précises.

Deuxièmement, si on peut affirmer que le développement (surtout le développement régional) fait l'objet d'une approche beaucoup plus intégrée et stratégique qu'auparavant, ces progrès s'observent surtout dans le domaine économique. Dans bien des cas, les dimensions sociale et surtout environnementale relèvent de processus de politiques distincts ou sont subordonnés aux objectifs de développement économique. On note depuis quelques années une plus grande cohésion dans l'approche de développement durable (l'UE s'est dotée d'une stratégie de développement durable en 2006) bien que plusieurs l'interprètent comme étant synonyme

de l'avant des ententes de programmes négociées (incluant les exigences et les incitatifs) entre la Commission européenne et les gouvernements nationaux ou régionaux individuels.

Enfin, la reddition de compte et l'ap-  
prentissage doivent être partie intégrante d'une approche de politiques adaptées au milieu. Ceci implique de permettre à la population et aux politiciens de se prononcer sur le modèle d'élaboration des

**Selon l'approche de politiques adaptées au milieu, une question fondamentale se pose : comment favoriser le développement des capacités des institutions aux niveaux local et régional et accroître le capital social?**

On remarque à cet égard que les processus d'évaluation gagnent en importance en Europe depuis les 15 dernières années. Autrefois l'apanage de quelques pays du Nord-Ouest de l'Europe (p. ex. les Pays-Bas, la Suède et le Royaume-Uni), l'évaluation est de plus en plus considérée comme une partie intégrante du processus de politiques publiques et survient avant, pendant et après leur mise en œuvre. Cette tendance s'explique notamment par le besoin de démontrer une optimisation des ressources et par la nécessité de disposer d'une information fiable permettant une bonne gestion des programmes de développement. Encore une fois, la politique de cohésion de l'UE est une des sources de ces changements.

véritable implication des gouvernements sous-nationaux. Ailleurs, par l'entremise d'agences ou de bureaux régionaux, le gouvernement central demeure très influent malgré le mouvement de régionalisation (comme en France, en Irlande ou au Royaume-Uni). On observe même certains cas, en Irlande et aux Pays-Bas notamment, où le mouvement de décentralisation a été renversé au cours des dernières années.

L'étendue (à travers les domaines de politiques publiques) et la profondeur (entre les différents niveaux de politiques) grandissent des politiques régionales impliquant la participation d'acteurs de provenances beaucoup plus diversifiées et demandent une coordination accrue à travers et entre entités administratives diverses. En partie sous l'influence du principe de partenariat énoncé dans la politique de cohésion de l'UE, la coordination horizontale au niveau régional a été facilitée au fil des ans, contribuant à la création de programmes régionaux (développés collectivement par les acteurs régionaux) de plus en plus nombreux. En contrepartie, la coordination au niveau national a été beaucoup plus ardue, notamment en raison d'un manque d'adhésion aux priorités de développement régional des ministères sectoriels nationaux. La progression du mouvement de régionalisation a nécessité une coordination nationale-régionale par l'entremise de mécanismes de dialogue informels (Autriche, Allemagne, Suède), de financement conjoint de programmes et projets (Danemark, France), de la nécessité d'inclure les priorités nationales dans les interventions régionales (Finlande, Pays-Bas) ou d'ententes contractuelles (telles que les ententes de services publics au Royaume-Uni). Une fois de plus, c'est la politique de cohésion de l'UE qui a permis d'atteindre le plus haut niveau de coopération entre différents niveaux de gouvernements, puisque la politique met

L'influence grandissante de la politique de cohésion de l'UE depuis 1988 sur le contenu et la gouvernance des politiques régionales des gouvernements nationaux. Cette tendance à la régionalisation a été marquée par une combinaison de dévolution et de déconcentration des responsabilités liées à la prise de décision et à la mise en œuvre des politiques vers les régions, notamment en Finlande, en France, en Italie, en Pologne, en Suède et au Royaume-Uni. Ce changement est primordial dans le cadre d'une approche de politiques adaptées au milieu et permet de susciter l'intérêt des collectivités locales et de favoriser l'expression des préférences à travers des institutions appropriées. Ceci permet de traiter à la base les enjeux de développement économique spécifiques à une région et d'y apporter, au niveau régional ou local, des solutions adaptées, intégrées et stratégiques. La dévolution a par ailleurs entraîné la création de nouveaux gouvernements ou conseils régionaux ainsi que de nouvelles agences ou autres entités chargées de la prestation de services, permettant ainsi à plusieurs régions de mettre sur pied et d'administrer leurs propres stratégies régionales.

Cependant, il faut préciser que l'étendue de la gouvernance à paliers multiples dépend des dispositions constitutionnelles et des structures institutionnelles, qui varient grandement en Europe d'un pays à l'autre. À une extrémité de ce continuum se trouve la Belgique, où presque toutes les responsabilités en termes de développement économique ont été dévolues aux régions. On retrouve aussi un haut niveau d'autonomie des régions quant à leur propre développement dans plusieurs autres pays fédérés comme l'Autriche, l'Allemagne et la Suisse. En revanche, dans plusieurs gouvernements de l'Europe centrale et de l'Europe de l'Est, le développement de politiques régionales s'effectue sans

la « voie nordique » au Royaume-Uni ou les ententes entre cantons suisses) ou dans le cadre d'une coopération inter-municipale (comme c'est le cas aux Pays-Bas, où par l'entremise de la conception ruralisée de la notion de pays (en France). Bien souvent, cependant, la géographie des politiques régionales nationales n'a pas encore été remise en question; le développement régional reste anecdotique et à petite échelle et les frontières administratives régionales continuent de baliser les interventions des décideurs publics. Cela dit, les efforts de l'UE dans la promotion de la coopération territoriale déployés depuis plus de 15 ans ont permis la création d'une géographie des domaines d'interventions transfrontalières qui encouragent la coopération interrégionale et transnationale.

Au cœur de cette évolution se dessine une tendance vers la gouvernance à paliers multiples. Le modèle de gouvernance traditionnelle des politiques régionales, dominé partiellement ou totalement par les gouvernements centraux, cède progressivement sa place à un système de gouvernance composé d'un côté d'entités sous-nationales, et de l'autre, qui joue un rôle important dans la conception et la mise en œuvre des politiques. Ces changements englobent un ensemble encore plus complexe de rapports verticaux et horizontaux entre et à travers les différents niveaux de territoire dans lesquels évoluent des acteurs gouvernementaux et non-gouvernementaux. L'influence de la politique de l'UE sur la concurrence sur le choix des instruments de politique régionale. Cette politique modifie la latitude dont disposent les gouvernements d'octroyer des subventions aux entreprises ou de participer à une guerre des subventions destinée à attirer l'investissement étranger. Cette européanisation s'observe aussi par

On a observé un autre changement d'approche important : les politiques publiques contemporaines délaissent peu à peu leur mandat traditionnel de réduction des disparités régionales pour faire la promotion de la croissance économique et tenter de rendre les régions plus concurrentielles en favorisant certains facteurs clés comme l'innovation, la productivité, l'entrepreneuriat et le développement des compétences. Les priorités de l'UE en matière de politiques publiques, en particulier le programme de Lisbonne, ont renforcé cette approche en encourageant les interventions, à l'échelle de l'UE, dans des domaines de la connaissance et de l'innovation, de l'environnement d'affaires et du marché du travail, domaines pour lesquels une cohésion des politiques publiques joue un rôle clé. Fait intéressant, plusieurs politiques régionales tentent de respecter en partie leur mandat traditionnel visant à promouvoir l'équité et la convergence. C'est le cas en Allemagne et en Espagne, où la recherche d'une réduction des disparités est parfois une exigence constitutionnelle. Dans la même veine, en France, dans les pays nordiques et au Royaume-Uni, certaines régions depuis longtemps sous-performantes ou sous-développées reçoivent des budgets plus élevés ou font l'objet de mesures spéciales.

Les éléments conceptuels à la base de l'approche de politiques adaptées au milieu se retrouvent également dans une vision différente des politiques fondées sur une base géographique. La priorité accordée au développement des capacités régionales a contribué à mettre les centres urbains et les villes-régions à l'avant-scène (Royaume-Uni) et à faire ressortir les réseaux économiques géographiques entre les centres urbains et les rapports villes-régions (Suède). Les effets de ces politiques s'observent à différentes échelles géographiques, comme dans le cas des initiatives sous-régionales (Alle-



science politique et de géographes redécouvrent la « région », concept prisé depuis longtemps mais présent jusqu'alors peu d'intérêt pour les sciences sociales en général. On affirme alors que le concept de région pourrait constituer une des assises fondamentales de la vie économique et sociale « après l'époque de production de masse ».

Cette nouvelle approche conceptuelle a une influence si marquante sur le développement de politiques régionales européennes qu'elle transforme radicalement les modèles de conception et de mise en oeuvre des politiques régionales et donne naissance à un nouveau paradigme de développement régional (Bachler, 2001; Hallier, 2006; OCDE, 2005). Si les politiques régionales des gouvernements nationaux des pays européens de même que la politique de cohésion de l'UE témoignent de ce changement de paradigme, les politiques régionales d'aujourd'hui ne sont pas toutes adaptées au milieu et plusieurs questions importantes demeurent sans réponse.

Dans le cadre de l'évaluation du degré d'intégration de l'approche adaptée au milieu aux politiques régionales

## Le développement de politiques régionales en Europe

La première condition est la présence d'un cadre stratégique qui permet, par l'entremise d'une stratégie nationale englobant les actions entreprises à différents niveaux par des acteurs divers venant de milieux différents, d'assurer une cohésion et une cohérence des politiques individuelles dont les impacts qui varient selon le lieu. Les politiques régionales européennes des 10 à 15 dernières années ont graduellement délaissé les instruments individuels de politiques d'infrastructure et d'aide régionale au profit d'une gamme élargie d'interventions qui ont inévitablement tenté d'influencer la dimension géographique des politiques sectorielles. Cette dynamique s'observe notamment dans le Nord de l'Europe, où la Finlande et la Suède existent maintenant des décideurs publics qu'ils prennent en considération la dimension régionale des politiques qu'ils proposent ainsi qu'en France (par l'entremise d'une coordination exercée par une agence nationale de développement, la Délégation interministérielle à l'aménagement et à la compétitivité des territoires) (DIACT) et en Italie (sous la nouvelle politique régionale unifiée).

Jusqu'à tout récemment, cependant, la plupart des pays européens ne disposaient pas d'un cadre national. Font

**Dans le cadre de l'évaluation du degré d'intégration de l'approche adaptée au milieu aux politiques régionales européennes, plusieurs caractéristiques doivent être prises en compte : la présence d'un cadre analytique stratégique et intégré; les objectifs de la politique, le fondement géographique des interventions; l'état de la gouvernance à paliers multiples et l'approche retenue en matière de reddition de compte et d'apprentissage.**

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(2008).

(Bachler et Yull, 2001, 2007; Yull *et al.*, 2008).

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## Une approche de politiques adaptées au milieu

Le concept de « politique adaptée au milieu » n'est pas nouveau.

Déjà, dans les années 1960, les travaux de Louis Winnick (1966) portant sur la redistribution de l'activité économique faisaient la distinction entre la « prospérité des lieux » et la « prospérité des gens ». La question de savoir si les politiques publiques dans des domaines tels que la pauvreté ou l'inclusion sociale devraient viser des « gens » ou des « lieux » alimente depuis longtemps les débats sur le développement de politiques, notamment les politiques régionales et urbaines (Armstrong et Taylor, 2000). Au cours des 20 dernières années, le concept a connu un regain d'intérêt dans plusieurs domaines de

*Au cours des deux dernières décennies, l'Europe a connu un changement de paradigme dans le domaine des politiques régionales. Cet article analyse les tendances dans la conception et la mise en œuvre des politiques régionales au niveau national et à l'échelle de l'Union européenne (UE) et illustre la façon dont les principes à la base de l'approche de politiques adaptées au milieu s'articulent dans la réalité et en fait ressortir les enjeux et défis.*

# Les politiques adaptées au milieu et le développement régional en Europe

politiques publiques, principalement en Amérique du Nord et en Australie. Les décideurs publics européens sont aussi plus familiers avec le concept grâce aux travaux de l'Organisation de coopération et de développement économique (OCDE), qui utilise cependant le terme « région » plutôt que « lieu ». Ce concept a servi non seulement à cerner la dimension géographique d'une politique publique mais aussi l'approche strate-

gique et intégrée en matière de gouvernance présentant des rapports institutionnels divers. Un document récent produit pour le compte de l'UE définit l'approche en matière de politiques adaptées au milieu comme une stratégie à long terme visant à remédier à une sous-utilisation chronique des capacités des personnes, combattre l'exclusion sociale dans certains lieux précis à l'aide d'interventions externes et du recours à différents paliers de gouvernance, promouvoir l'offre de biens et services intégrés et adaptés au contexte ainsi qu'à provoquer des changements institutionnels (Barca, 2009).

Le regain d'intérêt pour cette approche en matière de politiques découle d'une reconnaissance plus grande de l'importance du lieu géographique dans les théories de la croissance moderne et plus précisément des facteurs économiques et institutionnels qui varient en fonction de l'emplacement géographique et qui contribuent à la concentration de l'activité économique. Trois percées importantes de la recherche théorique et empirique ont redéfini la conceptualisation des politiques de développement économique et social (Farole *et al.*, 2009) : la « nouvelle géographie économique », notamment les rapports entre les coûts de transport/commerce et la concentration géographique; les théories de la croissance endogène, notamment celles portant sur les sources de l'innovation et sur sa distribution géographique; et les théories institutionnelles qui explorent les facteurs d'adaptabilité et d'innovation des économies. L'auteur Michael Storper (1997: 3) témoigne de cette nouvelle orientation conceptuelle.

L'évolution des concepts et des idées prend parfois racine dans des événements peu communs. Au début des années 1980, un groupe d'économistes politiques, de sociologues, de chercheurs de



## La planification communautaire globale (PCG)

La planification communautaire globale (PCG) est un processus de planification stratégique bénéficiant du soutien d'Affaires indiennes et du Nord Canada (AINC). Elle permet aux Premières nations, aux Inuits et aux communautés du Nord d'adopter une approche globale de la gestion des ressources naturelles, tout en intégrant et en prenant en considération la dimension sociale, économique ou de gouvernance d'une communauté.

Fondée sur un processus en vertu duquel tous les membres de la communauté participent à la détermination de leurs besoins et désirs, à l'établissement de priorités entre eux, et à l'élaboration d'objectifs clairs et d'une vision pour l'avenir, la PCG offre un cadre de gestion intégrée des terres, des ressources naturelles et de l'environnement qui touche tous les aspects de la vie communautaire. Si les plans peuvent varier d'une communauté à l'autre, tous reposent sur les principes clés de la participation, de la durabilité, de la définition d'objectifs clairs, de l'applicabilité et de la souplesse.

LAINC a aidé et/ou subventionné 138 communautés intéressées par la PCG et cela, de diverses façons. Par exemple, les communautés dans leurs activités de PCG ont été élaborées. De plus, un mécanisme de surveillance et d'évaluation ainsi qu'un programme de formation d'un agent des services financiers ont été mis en œuvre. Conscient du fait que le contrôle et la rétroaction constituent des aspects importants de l'aide fournie aux communautés, la région a désigné un agent de contrôle à cette fin.

Une description plus détaillée de cette initiative se trouve sur le site du Projet de recherche sur les politiques <www.prp-pri.gc.ca>

## Références

- hasard. Nous sommes en présence d'une occasion formidable d'étudier, d'examiner et de faciliter les approches intergouvernementales d'un siècle nouveau, fondées sur le lieu, axées sur la dévolution double et débouchant sur des villes et des collectivités viables. ●
- Canada, Infrastructure Canada et Statistique Canada : 2009. « Les lieux en évolution au Canada : données récentes et nouveaux outils destinés à la recherche stratégique transverse ». Projet mixte soutenu par le Groupe de données pour la recherche sur les politiques. <www.recherchepolitique.gc.ca/page.asp?page=inf\_tprdg\_index&langcd=F>.
- « Conférence Board du Canada ». 2007. *Mission Possible : Succèsful Canadian Cities*. <www.conferenceboard.ca/documents.aspx?DID=1904>.
- ICSC « International Centre for Sustainable Cities ». « Villes durables : Réseau Plus ». <sustainablecities.net/reseau-plus>.
- QUEST (Systèmes d'énergie de qualité pour les villes de demain). Page d'accueil. <www.questcanada.org/fr>.
- SFU (Simon Fraser University). « Strategic Sustainability and Community Infrastructure ». <www.sfu.gc.ca/cscd/strategic\_sustainability>.
- TRNIID (Table ronde nationale sur l'infrastructure durable) et CNRC (Conseil national de recherches du Canada). 2009. *Cadre de travail modèle pour l'évaluation de l'état, de la performance et de la gestion des infrastructures publiques de base du Canada*. <www.nrc-cnrc.gc.ca/obj/irc/doc/pubs/nrc51410f.pdf>.
- Yukon. nd. « Integrated Community Sustainability Plans ». <www.infrastructure.gov.yk.ca/gas\_tax/html/icsp.html>.
- AUMA (Alberta Urban Municipalities Association). Page d'accueil. <msp.auma.ca>.
- Canada, CCEVC (Comité consultatif externe sur les villes et les collectivités). 2006. *Pour en finir avec l'incertitude et favoriser la résilience des collectivités : bâtir un meilleur avenir pour tous les Canadiens*. Ottawa, Infrastructure Canada.

Une forme de dévolution double commence à se manifester dans les ententes sur la taxe sur l'essence et le transfert permanent de cette taxe. Par exemple, le Manitoba transfère des recettes de l'impôt sur le revenu à ses municipalités. La Colombie-Britannique donne aux municipalités l'accès aux taxes hôtelières et aux recettes des amendes pour infraction au code de la route et, par l'entremise de l'Agence de transport Translink de la Région métropolitaine de Vancouver, l'usage d'un éventail de sources de revenu telles que la taxe sur l'essence, les surcharges au compte d'électricité et les droits de stationnement et de véhicules. Les démarches de planification de la viabilité et leur financement émergent dans bon nombre de provinces et de municipalités. Entre autres exemples de provinces et de territoires qui jouent activement un rôle de « cheville ouvrière », citons la Colombie-Britannique, avec sa *Growth Strategies Act* et son programme de planification intelligente, de même que l'initiative Place à la croissance de l'Ontario et la trousse à outils des PIDC au Yukon. À l'échelon municipal, on remarque de nouveaux instruments tel l'outil de planification en ligne de la viabilité des municipalités mis au point par l'Alberta Urban Municipalities Association. Partout au Canada, plusieurs organismes régionaux et métropolitains, des villes de petite ou grande taille et des villages se sont engagés dans des processus de planification intégrée et participative à long terme.

1 Voir par exemple la recherche et les études de cas réalisées par le Centre for Sustainable Community Development de l'Université Simon Fraser, <[www.sfu.ca/cscd/strategic\\_sustainability](http://www.sfu.ca/cscd/strategic_sustainability)>, et par l'International Centre for Sustainable Cities, <[sustainablecities.net/plusnetwork](http://sustainablecities.net/plusnetwork)>.

2 Par exemple, le Conference Board du Canada (2007).

des endroits, indépendamment de la taille des collectivités. Des études de cas canadiennes récentes<sup>1</sup> montrent qu'un leadership communautaire solide, capable de mobiliser un large appui aux objectifs de la planification durable, de susciter un consensus et de promouvoir la participation, est un ingrédient essentiel au succès des PIDC. Ces études révèlent aussi que la possibilité pour les villes d'apprendre de leurs expériences mutuelles, par la participation à des activités d'information entre homologues, est très valorisée par les fonctionnaires municipaux et représente un autre facteur habilitant essentiel à la promotion et à la mise en œuvre de programmes de développement durable à l'échelle de la collectivité. Il demeure que nous devons continuer d'améliorer et de mettre en commun notre compréhension des obstacles et des facteurs clés susceptibles d'entraver ou de favoriser la mise en œuvre des PIDC dans divers contextes.

Une autre avenue possible pour les pouvoirs publics soucieux de soutenir le développement durable des collectivités consiste à élaborer de nouvelles données et de nouveaux outils propres à faciliter l'évaluation « sur le terrain » et le contrôle continu des politiques de viabilité à l'échelle de la collectivité. Le rapport final du CCEVC souligne la nécessité de « rattacher les autres pays [qui] ont fait des recherches et des examens stratégiques de grande envergure sur les villes et les effets de ces dernières sur la compétitivité, l'inclusion et la viabilité » (CCEVC, 2006 : 18), tout comme d'autres rapports rédigés par des intervenants canadiens considèrent les lacunes quant à la qualité et la quantité des données comme un obstacle à l'amélioration des politiques sur les villes<sup>2</sup>.

Au Canada, à l'heure actuelle, des gouvernements, des universitaires et des intervenants du secteur privé sont engagés dans une gamme d'initiatives de recherche et de projet de développement de données prometteuses qui ont pour objectif commun et primordial de promouvoir la viabilité des collectivités canadiennes. Les projets en cours sont axés sur le renforcement du savoir et des capacités du pays en matière de systèmes énergétiques intégrés en milieu urbain (p. ex., le réseau QUEST), l'amélioration de notre capacité à évaluer l'état de l'infrastructure publique du Canada (p. ex., TRNID et CNRC, 2009) ou les nouvelles données nationales permettant de mieux suivre l'évolution de la forme urbaine (p. ex., Infrastructure Canada et Statistique Canada). Nous aurons besoin d'autres initiatives de recherche innovatrices et concertées.

Nous vivons dans un siècle urbain, à l'échelle internationale et nationale. Pour la première fois de l'histoire de l'humanité, davantage de personnes vivent en ville qu'à la campagne. À la naissance de la Confédération, seulement 20 p. 100 des citoyens du Canada vivaient dans des villes; bientôt, plus de 90 p. 100 d'entre nous vivront en milieu urbain. Malgré toute l'importance de nos petites collectivités naturelles rurales et isolées axées sur les ressources, 95 p. 100 de nos 33 millions de citoyens vivent dans nos neuf grandes villes et nos 110 villes de taille moyenne ou dans les collectivités rurales de banlieue avoisinantes. L'adaptation à l'évolution du climat, la compétition mondiale et la qualité de vie sont appelées à accélérer la coopération intergouvernementale, que nous espérons voir survenir davantage à l'initiative des pouvoirs publics que par



3) Le Comité recommande à tous les ordres de gouvernement de collaborer afin d'aider les collectivités à élaborer des stratégies intégrées et viables.

### La situation actuelle

Pendant que nous réalisons les recherches nécessaires à la production du rapport du CCEVC et que les experts et les collectivités se mobilisent, bon nombre d'initiatives intergouvernementales étaient en marche en vue de réduire le déficit de l'infrastructure municipale, évalué à plus de 100 milliards de dollars, de commencer à déplacer davantage de ressources des administrations fédérale et provinciales vers les municipalités et de démarrer le processus de coopération et de planification intergouvernementales pour des collectivités plus viables.

L'administration du premier ministre Jean Chrétien avait redémarré un programme d'infrastructure municipale en 1994. Les premiers ministres Martin et Harper ont maintenu le financement à hauteur de 1,2 milliard de dollars par an, pour une contribution financière de 18 milliards de dollars du gouvernement fédéral pour les quinze dernières années, laquelle, ajoutée aux investissements provinciaux et municipaux, donne un total d'environ 45 milliards de dollars. En outre, le premier ministre Martin a donné suite à la demande de la Fédération canadienne des municipalités quant au partage de l'équivalent de cinq cents de la taxe sur l'essence, ce qui donnait 2 milliards de dollars par an en 2009. Paul Martin a également éliminé la TPS sur les achats des municipalités, ce qui laisse 700 millions de dollars de plus par année dans leurs coffres. Le premier ministre Harper et son ministre des Finances, Jim Flaherty, ont fait des recettes de la taxe sur l'essence une source permanente de transferts aux provinces de revenus destinés aux municipalités.

En outre, Infrastructure Canada a transféré 130 millions de dollars à Affaires indiennes et du Nord Canada pour l'infrastructure des réserves. Des fonds ont également été dévolus à la planification communautaire globale (PCG). Plus de 80 collectivités des Premières nations de la Colombie-Britannique ont reçu une aide financière au titre de la PCG. De plus, une nouvelle aide financière du gouvernement fédéral a été offerte aux universitaires et aux organismes de tout le pays pour soutenir la recherche sur les enjeux horizontaux relatifs à l'infrastructure, y compris la recherche sur les stratégies intégrées et viables qui soutiennent la mise en œuvre des PIDC en documentant les pratiques exemplaires et en communiquant les principales leçons à retenir.

### Conséquences pour l'avenir

Au cours des 15 dernières années, les administrations fédérale, provinciales, territoriales et municipales ont commencé, cas par cas plutôt que par une approche structurée, à s'attaquer au déficit de l'infrastructure municipale en se fondant davantage sur les lieux.

• **La dévolution double** : Les arrangements inefficaces des gouvernements nuisent à la compétitivité des neuf grandes villes du Canada, de sa cinquième de villes de taille moyenne et de ses milliers de collectivités de petite taille, rurales ou isolées.

• **Des stratégies viables pour les villes et les collectivités** : Pour que la dévolution double fonctionne, il faut que les collectivités locales collaborent avec l'administration fédérale, avec le gouvernement de leur province ou territoire et avec leurs citoyens pour élaborer une vision d'avenir de leur lieu.

Ces constats débouchent sur trois recommandations fondamentales.

1) Le Comité recommande à tous les pouvoirs publics au Canada d'adopter une démarche décisionnelle axée sur le lieu. Le gouvernement fédéral devrait exercer un leadership « afin de faciliter les relations et les partenariats avec les autres administrations publiques et la société civile en vue de la mise en place de solutions localement adaptées aux questions d'envergure nationale qui se manifestent localement » (CCEVC, 2006 : 21).

2) Le Comité recommande une dévolution double pour déplacer les ressources du gouvernement national vers les administrations provinciales et territoriales. Dans l'intervalle, avant que les villes et les collectivités puissent assumer de nouvelles responsabilités ou concevoir leur propre régime fiscal, il faut s'attaquer au déficit de l'infrastructure municipale : le vieillissement des égouts, des aqueducs, de la gestion des déchets, des routes et ponts, des bibliothèques et des centres récréatifs, et ce, par l'augmentation des investissements fédéraux, provinciaux et territoriaux.

**Mike Harcourt**  
Ancien premier ministre  
de la Colombie-Britannique et  
ancien maire de Vancouver

**E**n février 2004, le premier ministre Paul Martin a mis sur pied le Comité consultatif externe sur les villes et les collectivités (CCFVC), dont la composition diversifiée comprenait des représentants de toutes les régions du pays, de collectivités de petite, moyenne et grande tailles et d'un large éventail de secteurs de l'économie et de la société. J'ai été nommé à la présidence du Comité. Nous avons pour objectif de « repenser la manière dont le Canada et ses collectivités sont organisés et d'aider à faire en sorte que le pays soit un chef de file mondial du développement de collectivités dynamiques, créatives, englobantes, prospères et durables » (CCFVC, 2006 : iv).

## Pour en finir avec l'incertitude et favoriser la résilience des collectivités : Le rôle du gouvernement national et l'importance des stratégies intégrées et viables pour les collectivités

Au cours de 27 mois qui ont suivi, nous avons tenu des rencontres et des ateliers avec des centaines de dirigeants locaux,

d'organismes communautaires, d'intervenants et de spécialistes. Nous avons créé deux sous-comités chargés d'examiner la taille des collectivités et quatre dimensions de la viabilité : une économie prospère, un environnement sain, l'inclusion sociale ainsi qu'une culture riche par sa créativité et par l'application pratique de celle-ci, l'innovation.

En septembre 2005, nous avons tenu une table ronde sur la planification du développement durable des collectivités canadiennes, à laquelle ont participé plus de cent politiciens, fonctionnaires et spécialistes du domaine de la viabilité des collectivités. À partir de cet événement, nous avons formulé une approche de planification que nous avons maladroitement baptisée « Planification intégrée de la viabilité des collectivités ». Nous avons également vérifié des constatations et recommandations initiales. Nous en sommes arrivés à un large consensus. D'octobre 2005 à juin 2006, les travaux supplémentaires du Comité nous ont permis de préciser nos trois constatations principales et nos recommandations. Nous avons bénéficié de l'assistance experte du personnel de la Direction générale des villes et des collectivités d'Infrastructure Canada. Le 15 juin 2006, notre rapport final, intitulé *Pour en finir avec l'incertitude et favoriser la résilience des collectivités : bâtir un meilleur avenir pour tous les Canadiens*, a été remis au premier ministre Harper. Ce rapport de 96 pages, qui contient une mine de recherches et d'autres renseignements, résumait nos constatations sous trois thèmes.

- **L'importance du lieu** : Le lieu a une grande importance pour les Canadiens. Ces lieux – qu'ils soient grands, moyens, petits, ruraux ou isolés – étaient si variés qu'une approche uniforme, préfabriquée dans les bureaux de l'État, ne pourrait pas fonctionner.



## Accueillir les Jeux olympiques – Un exercice de planification et de coordination multisectoriel, multidisciplinaire et intergouvernementale

politiques contrastent souvent une planification et une gestion de l'utilisation des terres efficaces dans des régions logiquement organisées axées sur le paysage, comme les écosystèmes et les bassins versants. Grâce à l'appui technique et financier du gouvernement fédéral, il se peut que les plans de GIP communautaires axés sur les bassins versants, qui concentrent les écosystèmes ou les écosystèmes régionaux d'importance, soit le cadre de gestion et de planification de l'utilisation des terres qu'il convient au gouvernement fédéral d'encourager. ●

ration entre les provinces (et une coopération plus efficace) et davantage d'efforts qu'elles déploient en matière de GIP, notamment dans les domaines de compétence clairement fédérale (ou dans d'autres domaines où la participation du gouvernement fédéral est utile comme les indicateurs scientifiques et la mesure du rendement).

tion et de planification de l'utilisation des terres dans les territoires; de la même façon, il faut étudier les initiatives de GIP qui sont entreprises dans les Territoires-du-Nord-Ouest, au Nunavut et au Yukon. Ces études fédérales, ministérielles et territoriales permettraient de favoriser une évolution et une application cohérente d'un ensemble de normes nationales de GIP — un travail de coopération avec les provinces (qui sont les premières responsables de la planification et la gestion de l'utilisation des terres au Canada). Il faut davantage de coopé-

En février et mars 2010, le Canada sera l'hôte des XXI<sup>e</sup> Jeux olympiques et des X<sup>e</sup> Jeux paralympiques d'hiver. Pour mener à bien cette entreprise mondiale, le Comité d'organisation des Jeux olympiques et paralympiques de 2010 à Vancouver (le COVAN) travaille en étroite collaboration avec les gouvernements du Canada et de la Colombie-Britannique, la Ville de Vancouver, la Municipalité de villégiature de Whistler, le Comité olympique canadien et le Comité paralympique canadien. Pour faciliter les travaux de ce noyau du processus décisionnel, une entente multipartite — une première dans l'histoire des Jeux — a été créée, qui définit de manière précise les attributions de chaque partie et sert d'outil de planification essentiel. D'autres parties, dont des organismes communautaires, sont également impliqués dans le processus.

ter des avantages mutuels et durables sur le plan des arts et de la culture, de l'économie et du tourisme ou encore de la pratique d'activités sportives, entre autres.

Les Jeux sont une occasion unique de bâtir de nouvelles infrastructures, de stimuler l'économie, le tourisme, le bénévolat et l'emploi et de favoriser l'essor des sports. Les partenaires se sont engagés à faciliter l'intégration de priorités fédérales comme l'usage diligent et transparent des fonds publics, les exigences liées aux langues officielles, la protection de l'environnement, la participation active et inclusive des communautés autochtones et la promotion de la diversité culturelle.

Le développement durable est un élément essentiel de l'organisation générale des Jeux. Des efforts environnementaux considérables sont déployés en ce qui concerne la biodiversité, l'habitat faunique, l'énergie, les changements climatiques, la qualité de l'air, la qualité et la conservation de l'eau ainsi que la gestion des déchets. Les Jeux favorisent la promotion des diverses communautés linguistiques, des cultures autochtones et du dynamisme culturel du Canada, qui contribuent tous à l'inclusion sociale. Enfin, les Jeux ouvrent des possibilités de développement économique pour les entreprises et les collectivités canadiennes, surtout dans les domaines de l'approvisionnement, du tourisme, du commerce, des placements, de la technologie et de l'innovation.

Une description plus détaillée de cette initiative se trouve sur le site du Projet de recherche sur les politiques <www.prip-pri.gc.ca>

l'environnement pour étudier la question. La première recommandation faite à la province a été d'apporter un soutien financier et technique beaucoup plus élevé aux 30 organismes de gestion des bassins versants de la province qui existent déjà et qui fonctionnent en grande partie grâce au bénévolat. Dès la publication du rapport du conseil, la province a annoncé la mise en œuvre d'une initiative de planification des bassins versants accompagnée d'une augmentation spectaculaire du financement et de l'assistance technique auprès de ces groupes locaux parmi lesquels beaucoup se concentrent sur la découverte de solutions concernant la qualité de l'eau qui ne nuisent pas à l'agriculture.

Science

Il y a d'ailleurs de chances que l'information scientifique soit vraiment utilisée par les décideurs si elle permet de résoudre des enjeux de durabilité qui suscitent un intérêt général auprès du public. Cela n'élève rien à la nécessité d'effectuer de la recherche pure. Cela laisse seulement entendre que certains aspects de la frustration perpétuelle entre science et prise de décision peuvent être canalisés pour permettre d'améliorer la prise de décision en GIP, que certains voient peut-être comme « appliquée » bien que cela ne soit pas nécessairement le cas. La Saskatchewan est le chef de file au pays dans ce domaine étant donné qu'elle utilise des indicateurs scientifiques pour appuyer sa stratégie sur la qualité de l'eau potable et ses initiatives locales de planification des bassins versants coordonnées par la Saskatchewan Watershed Authority. Une série de 30 indicateurs a été mise au point grâce à une recherche rigoureuse, et elle sert désormais à évaluer la santé et la durabilité de chaque bassin versant de la province. Les indicateurs constituent un outil utile pour les décideurs, car il leur permet de déterminer les bassins versants pour lesquelles des mesures doivent être prises en priorité et de suivre l'évolution et les

Coordination

Étant donné son rôle de chef de file fort, il n'est pas surprenant que le Québec arrive en tête dans le domaine de la coordination. Il est logique qu'un gouvernement qui comprend le besoin de mettre en œuvre des solutions intégrées sur le plan environnemental, économique et social trouve également un moyen de fournir les structures nécessaires pour appuyer les efforts liés à cette prise d'initiative. En plus des trois comités interministériels du Cabinet, la stratégie de développement durable du Québec bénéficie du soutien d'une unité spéciale, le Bureau de coordination du développement durable, dirigé par un

Capacité

tendances à long terme. Ils seront également précieusement utilisés afin de voir comment progressent les efforts de planification qu'ils déploient (et de s'adapter le cas échéant).

Possibilités que le gouvernement fédéral pourrait examiner

Ce Bureau sous-ministre adjoint. Ce Bureau subvient également aux besoins du Comité interministériel du développement durable au niveau du personnel. Ces fonctions incontournables sont chapeautées par le ministre du Développement durable, de l'environnement et des parcs (MDDEP), un ministre qui contient le terme de développement durable dans son titre. Enfin, le premier ministre joue un rôle moteur très fort dans la stratégie de développement durable.

La présente étude porte essentiellement sur les initiatives de GIP à l'échelle provinciale; toutefois, il existe un besoin et des possibilités de susciter davantage l'attention et la participation du gouvernement fédéral aux initiatives de GIP au Canada.

Le Canada a des responsabilités constitutionnelles qui sont directement liées à la GIP dans le domaine des voies navigables, de la pêche et des Premières nations. Aussi le gouvernement fédéral est conjointement responsable de l'agriculture aux côtés des provinces. Les transports constituent un autre domaine important de compétence fédérale, et le Canada finance historiquement un grand nombre de constructions d'infrastructures au pays. Chacun de ces domaines est très étroitement lié à la planification et à la gestion de l'utilisation des terres en plus de son incidence sociale et environnementale.

Les ministères fédéraux mènent actuellement des initiatives de GIP portant sur l'agriculture, la pêche et la foresterie ou les ressources naturelles. Il faut les étudier afin de comprendre plus précisément la façon dont le gouvernement fédéral participe à la GIP et la met en place. Le gouvernement fédéral doit également jouer un rôle essentiel dans le soutien qu'il apporte aux efforts de ges-



une caractéristique fondamentale de la stratégie, et elle a lieu dans les plus hautes sphères – aux trois comités du Cabinet, et chose plus importante au Comité ministériel de la prospérité économique et du développement durable qui relie ainsi directement la durabilité au développement économique. Une série d'indicateurs de l'état d'avancement est désormais en cours d'élaboration, et les progrès accomplis dans l'ensemble feront l'objet d'un rapport tous les ans auprès du vérificateur général présenté par le commissaire au développement durable. C'est probablement en raison de ce rôle moteur et de la forte reconnaissance intégrée que des innovations supplémentaires ont vu le jour en matière d'intégration et de régionalisation de la gestion des ressources naturelles, de la mise en œuvre d'une planification des bassins versants par l'intermédiaire de la Politique de l'eau du Québec et de l'application des processus d'évaluation stratégiques environnementaux dans le golfe du Saint-Laurent.

### Engagement

L'Île-du-Prince-Édouard pourrait bien être le chef de file de cet élément-clé de la GIP où il est si essentiel de valoriser et d'appuyer les acteurs, qui se trouvent sur le point de mettre en œuvre des solutions. Cette province semble comprendre qu'une administration provinciale peut difficilement faire davantage que mettre en place une politique strative claire pour mettre en application de réelles solutions au niveau du paysage; c'est l'effet cumulé de nombreuses décisions individuelles qui déterminent au final si la durabilité tend à augmenter ou à baisser. En réponse à des inquiétudes grandissantes sur la qualité de l'eau dans l'agriculture (qui est un moteur indispensable de l'économie provinciale), l'Île-du-Prince-Édouard a mandaté son conseil consultatif indépendant sur

pour déclencher des initiatives efficaces de GIP semble s'articuler autour d'un engagement politique élevé, une coordination et une coopération interministérielle et la formation d'une unité au sein des intervenants qui encourage une consultation réelle et une communication ouverte (c'est-à-dire la Confiance des gouverneurs de la Nouvelle-Angleterre et des premiers ministres de l'est du Canada). Même si un engagement, une coopération et une coordination formalisée devaient garantir de meilleurs résultats de façon plus régulière, ce n'est pas toujours le cas étant donné que certains organes officiels peuvent être ignorés ou ne pas être utilisés, car le soutien politique qu'on leur apporte est insuffisant.

### Évaluation préliminaire des progrès accomplis

Si la GIP se doit de contribuer à l'amélioration de la planification, de la gestion et enfin du développement durable, il faudra que la prise de décision s'améliore de façon continue. Suite à la recherche menée dans le cadre de ce projet, nous allons maintenant aborder des exemples provinciaux qui nous semblent être des plus innovants en nous attachant aux initiatives qui existent aujourd'hui et qui pouvaient être étudiées plus en détails.

### Gouvernance

Il est nécessaire pour procéder à une GIP de disposer d'une gouvernance efficace et d'une mobilisation politique forte provenant des plus hautes instances responsables de la gestion des terres et des ressources. À ce jour, le Québec doit être reconnu comme la province la plus novatrice au Canada dotée, semble-t-il, d'une gouvernance efficace à l'appui de la GIP. L'approche du Québec commence au niveau le plus général par l'intermédiaire de sa stratégie de développement durable qui mobilise tous les ministères en vue d'élaborer des plans annuels de développement durable et des comptes-rendus. L'intégration est

stratégie sur la qualité de l'eau potable (« Safe Drinking Water Strategy »). Cette stratégie est définie sur le plan législatif comme une stratégie pangouvernementale clé dotée d'une obligation de rendre compte auprès de la législature et de directives interministérielles de planification claires. Des indicateurs scientifiques évaluent la santé des bassins versants et déterminent ceux pour lesquels il faut prendre des mesures en priorité. La mise en œuvre de la stratégie a eu lieu par l'intermédiaire d'un comité interministériel au niveau des sous-ministres présidé par le ministre de l'Environnement de la Saskatchewan. La planification et la gestion des bassins versants à l'échelle communautaire ont été mises en place par l'intermédiaire de la régie des bassins hydrographiques de la Saskatchewan (Saskatchewan Watershed Authority) qui relève également du ministère de l'Environnement de la Saskatchewan. La régie appuie la capacité des collectivités locales à élaborer elles-mêmes leurs initiatives concernant les bassins versants comme celles réunies au sein du comité sur les bassins versants de Lower Souris. L'Île-du-Prince-Édouard a récemment pris des mesures à l'égard des difficultés rencontrées dans les bassins versants en appliquant rapidement et énergiquement les recommandations formulées par le comité consultatif indépendant sur l'environnement de l'I-P-E. Celles-ci visaient à satisfaire les besoins fondamentaux des 30 organismes locaux chargés de l'intendance des bassins versants et leurs efforts pour améliorer la durabilité de l'utilisation des terres prépondérantes dans la province – et l'agriculture. Il existe des degrés variés d'engagement sur le plan législatif à l'égard de la GIP au Canada, mais beaucoup de choses peuvent être accomplies, et elles l'ont été, sans un soutien officiel de l'appareil législatif, car la coopération et la coordination interministérielle informelle entre personnes bien intentionnées sont tout aussi importantes que des initiatives officielles. Les conditions fondamentales

ronnement du Nouveau-Brunswick à quoi devraient ressembler une approche de GIP. Le ministère a établi des priorités pour appuyer l'intégration de la planification, fait intervenir la prise de décision au bon niveau et promouvoir une culture d'amélioration continue et une gestion adaptative – concepts phares accomplis et d'appuyer la réalisation des objectifs provinciaux suivants.

Présenté de façon plus éloquente dans la GGH, mais qui existe également ailleurs au Canada où les provinces semblent mener plusieurs initiatives reliées entre elles, chacune cherchant à coordonner différents secteurs ou régions, le fait qu'il existe de si nombreux plans de GIP (avec de nouveaux qui soit remplacent soit annulent des plans existants) laisse entendre un réel manque de coordination et d'intégration (et une utilisation peu efficace des ressources humaines, techniques et financières). Il est évident qu'il existe des rapports de force entre des ministères concurrents au sein de chaque province du fait que chacun revendique une autorité en matière de GIP. Il est urgent d'améliorer à grande échelle la coordination interministérielle de la planification dans la plupart des provinces.

Toutefois, il est important de noter que certains ministères se sont dotés de plans de GIP remarquablement bien coordonnés à l'intérieur. C'est tout particulièrement le cas du ministère de l'Environnement du Nouveau-Brunswick. Régi par des principes axés sur l'intégrité, le respect, l'impartialité et la compétence, le plan stratégique pour l'environnement du Nouveau-Brunswick, La Saskatchewan a fait preuve de la plus grande prise d'initiatives provinciale dans ce domaine avec sa

matière de GIP dans la grande région de Golden Horseshoe (GGH). Le nouveau plan de croissance pour la grande région de Golden Horseshoe est une tentative du ministère de l'Énergie et de l'Infra-structure de l'Ontario de regrouper plusieurs de ces initiatives existantes sous la *Loi sur les zones de croissance*. Toutefois, cette stratégie et ses dispositions législatives foulent aux pieds les directives claires et logiques de la planification provinciale aux termes de la *Loi sur l'aménagement du territoire* de la province et aux termes de la Déclaration de principes provinciale sur la planification municipale de l'aménagement du territoire.

Cette contradiction suscite des inquiétudes et des incertitudes, concernant l'intégration de la planification et ouvre la porte à de nouveaux conflits d'aménagement du territoire liés à la croissance et à la durabilité (au lieu de s'employer à les résoudre) dans la région canadienne qui est la plus densément développée et en pleine croissance. Indépendamment de ces défauts actuels dans le cadre de la GGH, les directives législatives de planification semblent être les plus claires en Ontario — grâce à une Déclaration de principes provinciale sur la planification municipale de l'aménagement du territoire.

**Les conditions**  
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**une coordination et**  
**une coopération**  
**interministérielle et**  
**la formation d'une**  
**unité au sein des**  
**intervenants trace**  
**une consultation**  
**réelle et une communication ouverte.**

gement du territoire, qui reconnaît par la même le rôle essentiel que jouent les administrations locales en matière de planification et de prise de décision dans la planification de l'aménagement du territoire. Par l'intermédiaire de cette déclaration, un cadre de surveillance du rendement est désormais en cours d'élaboration afin d'évaluer les progrès accomplis et d'appuyer la réalisation des

siècles offices de protection des bassins partie nord du parc de la Rouge. Plusieurs proménades et le plan de gestion de l'aménagement de la ceinture ouest de ment de l'escarpement du Niagara. Plan morale d'Oak Ridges, Plan d'aménagement de la verdure, Plan de conservation de la Toronto, à savoir le Plan de la ceinture de Golden Horseshoe (GGH) autour de



actuelle d'utilisation des terres publiques de la province qui a suscité la participation de quelque 15 000 personnes dans trois régions. La stratégie énergétique du Québec a fait intervenir 12 000 personnes au cours de son processus de consultation.

S'il est perçu que la communication manque d'adaptation, d'ouverture ou d'honnêteté, l'unité des intervenants peut facilement disparaître et faire sombrer dans le chaos d'importantes initiatives de planification de la province. Le cas avec l'initiative manitobaine de l'Est qui portait sur une des plus grandes régions canadiennes contiguës de la forêt boréale, une partie de laquelle a été nommée pour figurer parmi les sites du patrimoine mondial de l'Unesco.

La coopération stratégique (y compris transfrontalière) autour de la GIF semble susciter un grand intérêt, notamment de petits gouvernements qui disposent de peu de ressources et qui travaillent ensemble. Le plan d'action contre les pluies acides préparé dans le cadre de la Conférence des gouverneurs de la Nouvelle-Angleterre et des premiers ministres de l'Est du Canada fait intervenir un niveau remarquable de coordination entre les multiples instances administratives sur une question complexe par l'intermédiaire de laquelle des données détaillées sont recueillies, traduites et diffusées aux autres provinces ou états membres. Il semblerait logique qu'une coopération accrue à l'échelle régionale entre les provinces et dans le monde puisse profiter à plusieurs autres régions du Canada, notamment aux Prairies. L'Ontario a lancé plusieurs initiatives régionales en

passage à une prise de décision à l'échelle locale ou régionale en ce qui concerne les ressources naturelles et la mise en place d'une évaluation environnementale stratégique en vertu de la politique énergétique du Québec constitue un paradigme de planification qui s'attache essentiellement plus à réaliser une vision d'avenir qu'à répondre à des crises des conflits. Cette assise sur le plan des politiques s'appuie sur le plan législatif par une loi provinciale globale sur le développement durable.

La *Environmental Goals and Sustainability Act* de Nouvelle-Écosse appuie l'initiative de prospérité durable de la province et illustre un autre exemple fascinant des efforts déployés à l'échelle du gouvernement en matière de GIF. L'initiative comporte d'autres stratégies sectorielles, comme l'initiative d'amélioration sociale (« Weaving the Threads: Framework for Social Prosperity »), qui cherche à satisfaire le bien-être des habitants de Nouvelle-Écosse.

**L'ensemble des provinces a mis en évidence des degrés variés de planification, de gestion, de prise de décision et d'une pensée conceptuelle intégrée autour de la GIF et du développement durable.**

soutien politique très fort, une coordination et une coopération interministérielle formalisées ainsi que par des mesures très flexibles et novatrices. Le développement énergétique (plus particulièrement en rapport avec le pétrole et le gaz) semble être le secteur industriel où l'on observe le degré le plus fort de soutien politique et de coordination interministérielle autour de la GIF. L'Alberta, Terre-Neuve-et-Labrador et le Québec disposent chacune de stratégies énergétiques globales, incluant une attention particulière au développement pétrolier et gazier et son impact social et environnemental important.

Le secteur industriel est un intervenant de taille dans l'ensemble des provinces et, dans certains cas (par exemple la Water and Wastewater Association de Colombie-Britannique et le Atlantic Canadian Organic Regional Network), les organisations industrielles ont pris une part active dans les progrès accomplis en matière d'initiatives de GIF. Le rôle moteur de l'industrie est crucial, mais il peut être source de préoccupation, à savoir qu'une trop forte influence des intérêts de l'industrie peut interférer dans l'établissement de priorités provinciales et dans la mise en œuvre des politiques gouvernementales et des décisions de planification. Dans certains cas, l'impulsion donnée par les organismes non gouvernementaux a également joué un rôle essentiel pour modeler les efforts au chapitre de la GIF (par exemple, le Centre de données sur la conservation du Canada atlantique et Island Nature Trust de l'Île-du-Prince-Édouard).

À l'heure actuelle, le Québec semble être la province qui fait le plus preuve d'une réflexion avant-gardiste et novatrice sur la GIF par l'intermédiaire de plusieurs initiatives coordonnées à l'intérieur qui se déroulent dans le cadre d'une stratégie provinciale de développement durable. Des initiatives comme la Politique de l'eau du Québec, le

Tableau 1  
Types d'initiatives de GIP et exemples d'initiatives provinciales

Type d'initiative de GIP		Lieu d'où est extrait l'exemple									
Planification											
a)	Planification de l'utilisation des terres publiques par le gouvernement provincial	Exemple : coordination de la planification des terres publiques en vertu de la <i>Forest and Range Practices Act</i> de Colombie-Britannique par le bureau de gestion intégrée des terres qui travaille avec (et pour le compte de) sept ministères provinciaux.	C.-B.	Sask.							
b)	Directives de planification à l'intention des administrations locales publiées par les provinces	Exemple : application de la Politique de protection des zones côtières pour le Nouveau-Brunswick par l'intermédiaire du processus provincial d'évaluation d'impact sur l'environnement et sa future adoption à titre de réglementation, applicable à toutes les terres en vertu de la <i>Loi sur l'assainissement de l'environnement</i> .									
c)	Coordination provinciale de la planification à l'échelle locale et régionale	Exemple : le plan de croissance de l'Ontario pour la grande région de Golden Horseshoe en vue de répondre à des besoins d'infrastructure régionaux à long terme en vertu de la <i>Loi sur les zones de croissance</i> , en complément des dispositions législatives et de la politique de planification municipale.	Alb.	Sask.	Man.	Ont.		N.-B.			
Stratégies											
a)	Stratégie sectorielle ciblée menée par la province ou par un organisme désigné	Exemple : la stratégie « Focusing Our Energy » de Terre-Neuve-et-Labrador est une initiative globale conçue pour maximiser les avantages à long terme du développement des ressources énergétiques pour le compte de l'ensemble des résidents de la province.	C.-B.	Alb.	Sask.	Man.	Ont.	Qc	N.-B.	N.-É.	T.-N.-L.
b)	Stratégie naissante de GIP (hors initiatives de la Couronne) devant être menée par la province	Exemple : élaboration de plans régionaux d'utilisation des terres approuvées par le cabinet en vertu du « Alberta Land Use Framework » avec le soutien législatif aux termes de la <i>Land Stewardship Act</i> de l'Alberta et de la coordination du secrétariat interministériel.	Alb.						N.-B.		
c)	Stratégie globale de développement durable menée par la province avec un soutien législatif	Exemple : initiative de prospérité durable pour la Nouvelle-Écosse et application de la <i>Environmental Goals and Sustainability Act</i> de la Nouvelle-Écosse avec l'engagement d'atteindre les objectifs (les cibler les dates) prévus par la Loi.							Man.	Qc	N.-É.
Autres initiatives											
a)	Initiative de coopération régionale faisant intervenir plusieurs provinces	Exemple : mise en place coordonnée d'un plan d'action contre les pluies acides mis au point dans le cadre de la Conférence des gouverneurs de la Nouvelle-Angleterre et des premiers ministres de l'est du Canada sans disposition législative officielle habilitante.						Qc	N.-B.	N.-É.	T.-N.-L.
b)	Délégation des responsabilités aux collectivités locales et régionales et cogestion	Exemple : soutien du Manitoba aux collectivités autochtones en vertu de l'initiative de gouvernance de Wabanoong Makayugum Ojimaawin – côté est du lac (Winnipeg) qui porte sur 82 000 km <sup>2</sup> de forêt boréale.	C.-B.	Alb.				Man.	Ont.	Qc	T.-N.-L.
c)	Initiatives indépendantes de GIP d'envergure (d'autres initiatives existent)	Exemple : le projet manitobain « Tobacco Creek Model Watershed » repose sur des objectifs intégrés axés sur le revenu agricole et la diversité du paysage, la gestion des bassins versants, la participation et la surveillance, le drainage et l'habitat du poisson.							Man.		I.-P.-É.



envisage d'apporter des modifications importantes à l'utilisation des terres par des propositions de développement.

locales et une coordination provinciale des efforts de planification municipale et régionale. Chaque province a également mis au point diverses initiatives stratégiques ou des initiatives de planification sectorielle qui intègrent des éléments de la GIP. Ces initiatives peuvent cibler très précisément une ressource ou un secteur industriel particulier (c'est-à-dire la protection de l'eau, la gestion des forêts, la pêche, l'énergie, l'agriculture) ou témoigner d'une tentative de GIP dans la mise en place d'une coopération entre les ministères sur l'ensemble des aspects liés à l'utilisation des terres et des ressources et à des cadres de développement durable généraux à l'échelle de la province.

Une incroyable variété d'initiatives en rapport avec la GIP a eu lieu dans les provinces. Le tableau 1 dresse les grandes lignes de ces initiatives et donne des exemples pertinents par province. Chaque exemple met en évidence un ou plusieurs éléments importants de la GIP telle qu'elle est présentée dans les ouvrages et sert également à illustrer le champ et l'ampleur de l'activité de GIP à l'échelle provinciale. Ces exemples peuvent être regroupés en trois catégories générales : la planification, les stratégies et les autres initiatives.

Il est juste de dire que nous n'en sommes pas encore à l'heure d'une généralisation de la GIP et que les provinces n'y ont pas recouru de façon intégrale ni efficace. Toutefois, l'Alberrà a lancé un cadre ambitieux d'utilisation des terres destiné à orienter les activités de développement et d'utilisation des terres au sein de la province.

Au cœur de la GIP, on trouve cette prise de conscience qu'il faut désormais mettre en place des approches des planifications innovantes afin d'engager la société humaine sur la voie d'un développement environnemental, économique et social durable.

# Observations et innovations

sur l'environnement du Nouveau-Brunswick met en évidence un niveau de coordination interne élevée à l'échelle du ministère; il est prévu de coopérer avec deux ministères supplémentaires en vue de mettre sur pied une nouvelle politique de planification provinciale. La stratégie de développement durable du Québec fait état d'une planification et d'une coordination à l'échelle du gouvernement, ce qui est rare au Canada. Quoi qu'il en soit, il existe de nombreux exemples de la mise en pratique d'aspects particuliers de la GIP au Canada, desquels nous pouvons apprendre. Vous trouverez ci-dessous les éléments essentiels issus de l'étude accompagnée de plusieurs observations et innovations.

Le conflit dans l'utilisation des terres et la perception d'une crise sont des facteurs

Des problèmes graves peuvent découcher la mise en place prompte de mesures de GIP. Cette capacité de réaction se caractérise généralement par un

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# Une exploration de la gestion intégrée du paysage au Canada

Le nombre de praticiens dans le domaine de la gestion intégrée du paysage (GIP) et la masse grandissante des expériences de mise en application sont en train d'évoluer à l'échelle communautaire, provinciale, régionale et nationale au Canada — au sein des gouvernements, du secteur des organisations non gouvernementaux et du secteur privé. Comprendre l'évolution de la GIP, les initiatives récentes et les tendances futures au Canada permettra de déterminer les rôles en matière de GIP que le gouvernement fédéral est le plus à même d'assumer.

Étant donné que les responsabilités en matière de gestion et de planification de l'utilisation des terres et des ressources relèvent d'une compétence provinciale, le Projet de recherche sur les politiques

(PRP) a entamé un examen détaillé de la GIP à l'échelle provinciale au printemps 2009<sup>1</sup>.

## Un outil de planification pour le développement durable

Quoiqu'il n'existe pas encore de définition universelle, la GIP a été définie des propositions de développement science,

## Portée et type d'initiatives provinciales

La géographie et des données socio-économiques en vue de composer avec des objectifs environnementaux, des effets cumulatifs et des conflits dans les régions terrestres, aquatiques et marines. La gestion intégrée du paysage a recours à des approches axées sur des zones géographiques plutôt que sur des activités pour planifier de façon durable l'utilisation des terres et des ressources. Cette conceptualisation repose sur une approche faisant intervenir plusieurs partenaires, plusieurs disciplines et prenant en compte le système dans son ensemble dans l'optique d'éclairer l'établissement de politiques et la prise de décision. Cette démarche englobe tous les aspects de l'élaboration, de la mise en œuvre, de l'évaluation, de l'adaptation des stratégies de gestion intégrée du paysage.

Au cœur de la GIP, on trouve cette prise de conscience qu'il faut désormais mettre en place des approches des planification innovantes afin d'engager la société humaine sur la voie d'un développement environnemental, économique et social durable. La planification et la gestion sont des composantes de la gouvernance et, en définitive, des outils d'aide à la prise de décision. À ce titre, les concepts directeurs et les obstacles auxquels une GIP efficace se heurte reflètent les difficultés de gouvernance auxquelles font face les collectivités lorsqu'elles essaient de s'aventurer sur la voie de la durabilité.

1 L'article résume les résultats d'une étude commanditée par le PRP disponible au <www.prp-pri.gc.ca>



## L'initiative du bassin du lac Winnipeg

Avec une superficie de 24 000 kilomètres carrés, le lac Winnipeg est le dixième lac d'eau douce au monde et il s'étend sur quatre provinces canadiennes et quatre États américains. En 2008, le gouvernement fédéral a réagi à la détérioration de la qualité de l'eau dans le lac en s'engageant à verser 17,7 millions de dollars sur quatre ans grâce à la mise en place de l'Initiative du bassin du lac Winnipeg. Cette initiative a été établie en partie pour répondre à la demande de leadership fédéral du gouvernement du Manitoba dans le but de faciliter l'intégration et la coordination des efforts des parties prenantes des deux côtés de la frontière et de répondre à des besoins scientifiques. Administrée par la Direction de la science et de la technologie de l'Environnement, cette initiative regroupe également d'autres ministères fédéraux (notamment Pêches et Océans Canada et Agriculture et Agroalimentaire Canada), des organismes provinciaux, des organisations non gouvernementales, les Premières nations et d'autres parties prenantes.

Dans le cadre de cette initiative, Environnement Canada met en œuvre un plan scientifique intégré afin d'éclairer les politiques et les programmes et servir de base à la prise de décisions liées aux problèmes de gestion des éléments nutritifs présents dans le lac. Un Fonds d'intendance du bassin du lac Winnipeg sert de base aux projets visant à réduire la charge d'éléments nutritifs. Un certain nombre d'organismes fédéraux et provinciaux participent aux travaux d'un comité de consultation technique chargé d'examiner les projets proposés. Environnement Canada a aussi ouvert à Winnipeg un bureau de gestion du lac Winnipeg et a élaboré un portail d'information à guichet unique visant à promouvoir l'échange de données entre les partenaires. Le ministère travaille avec la province du Manitoba à la mise en œuvre d'un accord ou d'un protocole d'entente fédéral-provincial visant à établir une approche de collaboration à long terme pour assurer la durabilité du bassin.

Une description plus détaillée de cette initiative se trouve sur le site du Projet de recherche sur les politiques <www.prp-pri.gc.ca>

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d'actifs stratégiques pour la mise en œuvre des politiques ». En libérant le flux d'information vers les communautés et en canalisant le savoir collectif pro-duit par ces mêmes communautés dans l'autre sens, la SACASS et le SRQV constituent un modèle de fédéralisme réseauté de ce genre.

## Conclusion

Alors que le Canada est confronté à des problèmes de plus en plus complexes nécessitant des solutions créatives de la part de nombreux intervenants, l'importance de réseaux pan-canadiens capables de mobiliser le savoir local est vitale. Scott (2009) souligne que : [traduction] « Les solutions aux problèmes d'une communauté ne se trouvent jamais exclusivement au sein de la communauté, surtout en cette ère de mondialisation. C'est toutefois invariablement au plan local que les gens se mobilisent autour de problèmes ». Il n'est plus possible de dissocier le pouvoir de résoudre les problèmes des communautés du savoir provenant des communautés ou mis à leur disposition. Anderson (2009) conclut que : [traduction] « Savoir égale pouvoir. Si le savoir est concentré à Ottawa, le pouvoir de résoudre les problèmes demeure lui aussi concentré à Ottawa ». Pour rendre plus efficaces les stratégies adaptées au milieu, il est essentiel de donner accès au savoir et aux données aux parties prenantes locales si l'on veut qu'elles jouent un rôle significatif dans les activités d'élaboration collective de politiques avec le gouvernement fédéral. Notre réussite collective à tracer une nouvelle voie peut reposer, en partie, sur la volonté de ces réseaux du savoir émergents de « progresser jusqu'à comprendre » et de continuer d'affirmer la valeur qu'ils ajoutent aux débats sur les politiques nationales. ●

5. L'intégration du savoir acquis par les réseaux dans les processus de prise de décision des structures hiérarchiques demeure problématique. En dépit du succès qu'ont connu ces réseaux pour susciter la collaboration et soutenir des prises de position sur le plan des politiques, l'intégration de leur savoir dans les processus officiels demeure problématique. Le déséquilibre des données qu'on a pu observer ces deux dernières décennies fait obstacle à une planification efficace de la part des communautés et à la compréhension du milieu par les différents paliers de gouvernement. Dans sa définition des limites des organisations hiérarchiques, Stein (2006 : 40-41) analyse le pouvoir des réseaux comme fonction d'intégration au sein des sociétés à structure verticale. Les réseaux [traduction] « permettent la communication et la collaboration entre membres qui peu-

vent être dispersés, dans le temps et l'espace, dans diverses organisations. Ils multiplient les canaux d'information et d'échanges et sont, dès lors, beaucoup moins sujets aux blocages et aux embouteillages. » Comme outil de renforcement de la capacité du régime fédéral canadien à répondre aux problèmes complexes que pose la mondialisation, Stein (2006, p. 50) préconise une sorte de « fédéralisme réseauté » dans lequel les gouvernements sont en relation avec leurs détenteurs de renseignements importants, de bonnes idées de politiques ou

membres, souligne-t-il, « y travaillaient "sur le coin de leur bureau" sans beaucoup de capacité ni de soutien institutionnel. C'est la foi des personnes en ce projet qui le fait avancer. » Si le leadership local est essentiel, ces deux initiatives exigent aussi des organisations nationales solides pour être le fer de lance des projets et assurer le leadership en général. La réussite de ces initiatives repose sur la force de chacun des partenaires et toute faiblesse de la part de l'un d'entre eux compromettrait le projet; le renforcement de ces réseaux exige des investissements tant financiers qu'organisationnels.

4. Les relations sont importantes.

La capacité de l'organisation directrice à canaliser ses relations antérieures avec un réseau pan-canadien d'organismes membres a facilité la mise en place de la SACASS et du SRQV. Vu leurs relations antérieures avec Statistique Canada, les organisations directrices étaient aussi bien placées pour faire le pont avec cette dernière. Dans le cas de la SACASS, une entente d'accès a été rendue possible en partie par les relations soutenues entre le CCDS et Statistique Canada, de même que par sa crédibilité comme producteur de bonnes recherches à l'aide des données de Statistique Canada.

La réussite dépend aussi de la capacité à élargir la sphère de collaboration et à établir de nouvelles relations. Dans le cas de la SACASS, la stratégie du modèle de consortium visait spécifiquement à encourager la collaboration entre les organismes. Scott (2009) a affirmé que cela tenait à la conviction que [traduction] « il faut une base pour créer des partenariats. Les données étaient cette base concrète, de sorte que les gens voyaient tout de suite la valeur du partenariat. Les gens étaient attirés par les données, mais s'en sont servis comme



réseau pan canadien opérationnel de planificateurs et de responsables de l'élaboration des politiques qui partagent des pratiques et accumulent du savoir collectif.

## L'initiative d'accès aux données municipales et communautaires

Vu les difficultés à accéder à des données locales pertinentes, la SACASS et le SRQV collaborent à une initiative d'accès aux données municipales et communautaires, qui vise à améliorer l'accès de politiques adaptées au milieu. Anderson (2009) a souligné ceci : [traduction] « Pour concevoir une approche de politiques adaptée au milieu, nous avons besoin d'avoir accès aux données. Si nous élaborons des politiques non fondées sur des données, nous courons droit à l'échec. Sans être gage de réussite, l'accès aux données est un outil essentiel pour augmenter les chances de réussite. » Les initiatives récentes de Statistique Canada améliorent cet accès grâce à la mise en ligne de données aux niveaux de la subdivision et du secteur de recensement. L'acquisition de données cohérentes à des niveaux géographiques pertinents pour les communautés demeure toutefois un défi qui exigera une collaboration soutenue entre Statistique Canada et les réseaux partiellement communs de la SACASS et du SRQV. Lors de sa conception, le mot d'ordre informel de cette initiative était *Donc prohibé, providé* (progresser jusqu'à appréhender), qui reflète sa position en dehors des processus officiels de prise de décision tout en revendiquant obstinément le droit à la parole.

## Principaux enseignements et implications pour les politiques

1. Les approches adaptées au milieu doivent reposer sur une infrastructure adaptée au milieu fructueuses. Sur la base de cet examen de ces initiatives, on peut tirer cinq grands enseignements de l'élaboration de stratégies adaptées au milieu fructueuses.

Dans une économie mondiale, où le savoir est l'élément moteur de l'activité économique, l'existence d'une puissante infrastructure du savoir est critique pour les politiques et la planification à l'échelle aussi bien locale que nationale. Afin de pouvoir résoudre les problèmes complexes auxquels elles sont confrontées, les communautés ont besoin d'un accès en temps opportun à des données pertinentes sur les plans conceptuel et spatial. Anderson (2009) a souligné ceci : [traduction] « Pour concevoir une approche de politiques adaptée au milieu, nous avons besoin d'avoir accès aux données. Si nous élaborons des politiques non fondées sur des données, nous courons droit à l'échec. Sans être gage de réussite, l'accès aux données est un outil essentiel pour augmenter les chances de réussite. » Les initiatives récentes de Statistique Canada améliorent cet accès grâce à la mise en ligne de données aux niveaux de la subdivision et du secteur de recensement. L'acquisition de données cohérentes à des niveaux géographiques pertinents pour les communautés demeure toutefois un défi qui exigera une collaboration soutenue entre Statistique Canada et les utilisateurs de données locales.

2. Il faut investir dans le renforcement des capacités.

Grâce à la SACASS et au SRQV, les communautés ont démontré leur capacité croissante à présenter et à mieux comprendre leur propre situation, ainsi qu'à devenir beaucoup plus articulées. Il faut cependant poursuivre les efforts pour renforcer la capacité locale d'utilisation des données. Michel Frojmovic (2009), le conseiller principal pour ces deux projets a souligné que, si les données sont maintenant plus accessibles, [traduction] « la quantité de données disponibles est énorme, ce qui peut être effrayant. Un des grands obstacles à l'uti-

lisation des données est de savoir ce qu'on peut en faire et en quoi elles peuvent soutenir notre travail ». Dans le cas de la SACASS, Doug Norris (2009), l'ancien directeur général de statistique sociale et démographique à Statistique Canada, a fait le commentaire suivant : [traduction] « Les données n'étaient pas présentées dans un format convivial, si bien que beaucoup de communautés les recevaient mais n'avaient pas la moindre idée de comment s'en servir. Même si toutes les données étaient disponibles gratuitement, la plupart des gens n'étaient toujours pas capables de les utiliser ». Le maintien de l'aide au renforcement de la capacité des communautés à faire une bonne utilisation des données améliorera cette base émergente de ressources locales.

3. Les réseaux ont besoin d'un leadership qui doit disposer des ressources nécessaires.

Même si la mondialisation et les défis organisationnels et fiscaux du gouvernement ont dressé des obstacles à la collaboration, les réseaux de la SACASS et du SRQV font foi de la capacité de cette collaboration à canaliser le leadership local afin de mobiliser les ressources et de gagner du soutien local. Pour la SACASS, Scott (2009) a souligné que : [traduction] « l'un des principaux facteurs de réussite était l'existence d'une organisation directrice intéressée à assurer le leadership. Cela dépend dans une grande mesure de la présence de personnes conscientes des avantages du programme et déterminées à l'implanter davantage. » Dans le cas du SRQV, cet avis a trouvé écho chez le Directeur, Politiques et recherches de la FCM, Michael Buda (2009), qui a déclaré que [traduction] « la réussite du projet est en grande partie attribuable à son adaptation au milieu et à l'engagement des gens au niveau local ». La plupart des

- de présenter les administrations municipales comme un partenaire fort et légitime dans le débat sur les politiques publiques au Canada (FCM, 1999).

Un deuxième rapport a été publié en 2003, de même que plusieurs rapports thématiques sur diverses questions, dont l'immigration et le logement à prix abordable. Alors que le Canada entre dans une nouvelle ère d'éventuelles compressions fiscales, la FCM compte sur le SRQV pour faire la preuve des effets des coupures antérieures sur les municipali- tés et souligner les incidences poten- tielles d'une nouvelle série de transferts. Outil de politique à l'origine, le SRQV est aussi devenu une source importante de données. Burrett (2007 : 163) sou- ligne que : [traduction] « La désagréga- tion sur la base des limites des municipales est l'une des caractéris- tiques uniques du SRQV. La plupart du temps, les analyses de questions "locales" en dehors du système du SRQV sont effectuées au niveau des subdivisions de recensement et des régions métropoli- taines de recensement et ne reflètent donc pas nécessairement les questions auxquelles est confrontée une municipa- lité donnée ». La capacité du SRQV à acquérir des données pertinentes pour les besoins locaux et à des niveaux géo- graphiques pertinents en fait une mine d'information de plus en plus impor- tante pour les planificateurs et décideurs locaux.

La capacité du système à relier des sec- teurs au sein des communautés et entre elles est aussi devenue un nouvel objec- tif. Pour le sondage municipal, les muni- cipalités doivent confier la collecte de données à divers intervenants, ce qui facilite les liens locaux horizontaux entre les services municipaux de même qu'en- tre d'autres secteurs et intervenants. À l'échelon national, le SRQV a créé un

## Le Système de rapports sur la qualité de vie

Initiative de la Fédération canadienne des municipalités (FCM), le SRQV uti- lise des données locales pour surveiller les changements dans la qualité de vie. Ce projet est porté par un réseau de muni- cipalités membres, qui collaborent à l'élabora- tion d'une série d'indica- teurs et de rapports sur ces derniers. Le système repose sur l'achat collec- tif de données de recen- sement, complété par des données spéciales recueillies au cours d'un sondage municipal. Actuellement, 23 muni- cipalités de l'ensemble du Canada participent au SRQV.

Contrairement à la SACASS, le SRQV a été conçu comme une poli- tique et non comme une initiative d'ac- cès aux données. Il visait au départ à présenter des rapports sur l'impact des transferts de responsabilités et des cou- pures dans le domaine social sur les col- lectivités. Ce projet a été mis sur pied par plusieurs municipalités membres qui se sont aperçues que la FCM avait besoin de preuves pour élaborer et articuler des positions pertinentes en matière de poli- tiques. Publié en 1999, le premier rap- port sur la qualité de vie avait pour

- de cerner des problèmes touchant la qualité de vie dans les collectivités canadiennes et d'y sensibiliser les ins- tances;
- de mieux cibler les politiques et de mieux utiliser les ressources visant à améliorer la qualité de vie;

observatoire de la santé de la population en plus le réseau de la SACASS pour nationale, les membres utilisent de plus en plus le réseau de la SACASS pour

mettre en commun des pratiques exemplaires en développement social.

En plus de planifier les services, la SACASS oriente aussi les poli- tiques. À l'échelon local, ses données ont large- ment servi à soutenir l'élaboration d'une poli- tique sur le salaire vital à Calgary. À Victoria, elles sont à la base du rapport intitulé *Poverty and Inequality in the Capital Region of British Columbia*, qui analyse l'effica- cité des stratégies de

réduction de la pauvreté afin de stimu- ler l'action dans la communauté. Il est difficile de dire jusqu'à quel point elle a influencé les politiques des paliers supé- rieurs de gouvernement. John Ander- son (2009), l'ancien vice-président des partenariats stratégiques du CCDS, a laissé entendre que l'approfondissement de la compréhension de la pauvreté attri- buable à la SACASS a contribué à l'éla- boration de stratégies provinciales de réduction de la pauvreté. Bien que l'im- pact sur les politiques fédérales soit encore moins évident, il a avancé que la disponibilité de données locales a permis une analyse plus nuancée des politiques, et il se pourrait que le regain d'intérêt envers les approches adaptées au milieu soit en partie dû à une bonne utilisation d'une plus grande quantité de données locales par les communautés.

- Pour des raisons d'efficacité et de principe, en plus de tenir compte du contexte local, les stratégies adaptées au milieu doivent être mises en œuvre au plan local avec la participation de décideurs locaux.**



l'issue du recensement de 1991, qui avait révélé une progression de la pauvreté, ce qui avait amené le CCDS à publier un rapport sur la pauvreté urbaine au Canada. Pour le produire, le CCDS a travaillé en étroite collaboration avec des communautés et découvert qu'elles n'avaient, pour la plupart, pas accès à des données locales.

Sachant cela, le CCDS a cherché à améliorer l'accès aux données pour permettre aux communautés de concevoir des interventions efficaces. Parallèlement, les données de la SACASS sont largement utilisées pour mieux comprendre les conditions de vie de sous-populations locales précises ainsi que la répartition spatiale de problèmes dans de petites zones de la géographie urbaine dans le but de bien planifier et évaluer les programmes et les services. À Ottawa, on s'est servi de données pour projeter les zones où le besoin des services aux contextes précis de milieu une attention que ne peuvent atteindre les approches spatiales axées sur les populations.

De nouvelles formes de collaboration ont aussi résulté des partenariats facilités par les membres de la SACASS. À Calgary, le consortium local a coordonné des efforts en vue de la création d'un

- d'acheter des données et d'en faciliter l'accès;
- de former des gens et de renforcer la capacité d'utilisation des données;
- de communiquer et de disséminer la recherche qui en a résulté.

La SACASS est désormais un réseau pan-canadien de 22 consortiums locaux comptant 258 membres organisationnels qui représentent un vaste éventail d'administrations municipales et d'orga-

local n'a pas eu grand mot à dire sur la façon dont s'effectuent la collecte, l'analyse et la dissémination des données; des données qui paraissent importantes au plan local peuvent ne pas constituer une priorité pour le gouvernement fédéral ou provincial et ne pas être présentées ni même recueillies. S'il était donc nécessaire d'augmenter la précision analytique pour comprendre les conditions de vie de sous-populations précises dans certaines zones, ces données n'étaient souvent pas disponibles au niveau géographique pertinent, rendant nécessaires des commandes personnalisées au coût prohibitif.

Afin de combler cet écart du savoir, deux projets partiellement communs ont vu le jour : la Stratégie d'accès communautaire aux statistiques sociales (SACASS) et le Système de rapports sur la qualité de vie (SRQV). Dernièrement, ces deux réseaux ont élaboré ensemble une initiative d'accès aux données municipales et communautaires, dans laquelle les communautés collaborent avec Statistique Canada afin d'accroître l'accès à l'information et de stimuler une participation plus importantes des paliers supérieurs de gouvernement.

## Bâtir une infrastructure pan canadienne du savoir : deux études de cas

### La Stratégie d'accès communautaire aux statistiques sociales

Initiative du Conseil Canadien de Développement Social (CCDS), la SACASS met un vaste éventail de données statistiques à la disposition des communautés à un coût réduit. Pour y participer, les communautés forment un consortium de données constitué d'une organisation directrice (en général, la municipalité) et d'organisations non gouvernementales locales. Cette initiative a vu le jour à

l'issue du recensement de 1991, qui avait révélé une progression de la pauvreté, ce qui avait amené le CCDS à publier un rapport sur la pauvreté urbaine au Canada. Pour le produire, le CCDS a travaillé en étroite collaboration avec des communautés et découvert qu'elles n'avaient, pour la plupart, pas accès à des données locales.

Pour que les politiques sociales soient efficaces, les responsables de l'élaboration des politiques doivent accorder aux contextes précis de milieu une attention que ne peuvent atteindre les approches spatiales axées sur les populations.





Les villes sont particulièrement touchées par les effets de la mondialisation. Au virage vers une économie post-industrielle viennent s'ajouter l'ingé- galité croissante des revenus et des modèles bien enracinés de pauvreté. Parallèlement, la hausse de la demande de main-d'œuvre et l'intensification de la mobilité internationale stimulent l'im- migration et la diversité ethno-culturelle dans les villes canadiennes. On s'inquiète particulièrement de taux de la pauvreté parmi les populations minoritaires de la façon dont la précarité et sa concen- tration spatiale semblent se renforcer réciproquement, faisant obstacle à la cohésion sociale des grandes villes cana- diennes.

## Donc Prohibiti, Procidite : bâtir une infrastructure du savoir pour soutenir les politiques adaptées au milieu

adaptées à la complexité des problèmes des villes modernes, les gouvernements peinent à trouver la bonne parade. Leur structure est souvent verticale, les poli- tiques étant élaborées aux niveaux supé- rieurs et mises en œuvre sans grande coordination par des organes centralisés. Pourtant, l'inégalité des revenus, la pauvreté ou la diversité, par exemple, ont

des recoupements avec la politique sur l'immigration, le marché du travail, le bien-être social et les activités de redis- tribution du revenu, qui relèvent tous d'intervenants différents. Ces questions sont ce que Bradford (2005 : 4) qualifie de « vilains problèmes, qui transcendent les frontières transversales et résistent aux solutions facilement applicables par l'entremise d'un seul organisme ». La structure verticale du gouvernement semble donc inadaptee à la complexité horizontale de nombreux problèmes. De surcroît, en général, les interventions gouvernementales dans le domaine des politiques sociales ont été axées sur la population, de sorte que, pour des raisons d'équité, les services sont offerts de manière uniforme à des populations cibles, peu importe leur milieu. En dépit des assertions des premiers théoriciens de la mondialisation à l'effet que le caractère unique d'un lieu était érodé par l'écono- mie mondiale, on s'aperçoit de plus en plus que les caractéristiques de nombre de problèmes varient selon le milieu; si la nouvelle économie fonctionne à l'échelle mondiale, la culture socio-politique locale exerce une influence sur son impact précis sur les localités (CCEVC, 2006; Tsukamoto et Vogel, 2004). Pour que les politiques sociales soient effi- caces, les responsables de l'élaboration des politiques doivent accorder aux contextes précis des milieux une atten- tion que ne peuvent avoir les approches aspatiales axées sur les populations.

### Les réactions adaptées au milieu à des problèmes sociaux urbains complexes

En réaction à cette nouvelle réalité urbaine, une approche adaptée au milieu a vu le jour afin de répondre aux carac- téristiques uniques des milieux par opposition aux populations. Les strate- gies adaptées au milieu sont propres à un





entité du passé et inefficience, l'arrimage aux initiatives récentes de planification peut s'avérer plus difficile.

Inévitablement, la gestion intégrée est fondée sur les valeurs. Puisque les valeurs ne sont pas universelles, on doit rendre explicites, puis expliquer et discuter, toutes les valeurs qui sous-tendent la GI. Il s'agit de la thèse centrale de la démonstrative de libération. Nous devons créer (ou soutenir) des institutions de GI qui permettent cette discussion. Afin que les communautés soient au cœur de cet élan nouveau de la GI et de sa mise en œuvre, nous suggérons que les initiatives de GI intègrent les éléments clés présents dans cet article, notamment le soutien à l'établissement d'une vision, et des valeurs et des indicateurs de performance communautaires. Il est particulièrement important d'adopter le processus de GI en quatre étapes décrit ci-haut qui doit, pour soutenir l'efficacité, la gestion intégrée gouvernementale est lente alors que les besoins des communautés sont immédiats), des échelles géographiques différentes (un espace administratif étendu versus une localité située dans un lieu précis), et avec des objectifs différents (coordonner les processus à l'intérieur des gouvernements ou entre les gouvernements et gérer les conflits versus résoudre, au niveau de la communauté, des enjeux écologiques ou des inéquités sociales et favoriser l'accès aux ressources). Parmi les autres défis rencontrés, on compte le manque d'intervenants pouvant faire le pont entre les processus communautaires et les processus gouvernementaux : autrement dit, les communautés ont de la difficulté à élargir la portée des enjeux pour dialoguer avec les gouvernements qui ont pour leur part de la difficulté à traiter des cas spécifiques au niveau local. Finalement, le concept de « communauté » lui-même pose problème. Si la communauté est perçue (à tort) comme une

changement en profondeur et de soutien à des communautés locales en santé, des communautés résilientes, écologiquement viables, durables sur les plans humain et écologique (p. ex. en améliorant le bien-être, la santé des écosystèmes, la diversité et la résilience).

4) Produire, dans une perspective de

Les considérations suivantes viennent appuyer la thèse centrale de cet article : il faut actualiser le plein potentiel de la GI, notamment sa capacité d'inclure les communautés et de favoriser leur participation active. Notre recherche démontre clairement que des méca-

- la participation dans la gouvernance de la GI.
- il faut intégrer différents niveaux de participation dans la gouvernance de la GI.
- les valeurs communautaires doivent être intégrées à la GI;
- il faut fournir l'espace juridique et les ressources locales nécessaires à la mise en place d'institutions de GI efficaces;
- il faut intégrer différents niveaux de participation dans la gouvernance de la GI.

## Conclusions

- **Résultats :** Des écosystèmes et des communautés/personnes dont la santé et la sécurité sont assurées; moins de conflits; durabilité écologique, résilience régionale et complexe/diversité régionale; économies pour la population; changements en profondeur.
- **Gestion de la prise de décision :** Communiquer librement avec les usagers; coordination, résolution de conflits; se rappeler qui bénéficie de telle ou telle mesure; adaptable; pro-régé ce qu'il y a de bon; inclure la résistance et le travail politique; considérer différentes options.

## Une vision communautaire de la GI

- 1) Cerner les valeurs importantes à préserver dans le processus de gestion (p. ex. des retombées locales, la sécurité alimentaire, la santé de l'économie et des écosystèmes de la région, la reconnaissance de l'importance de chaque intervenant).
- 2) Permettre le débat au niveau local par l'entremise d'un processus fondé sur la participation et qui fait entendre la voix de tous les intervenants (et pas seulement celle des plus puissants).
- 3) Produire des décisions et des plans qui tiennent compte des effets perturbateurs et des impacts cumulatifs et qui abordent de front les conflits (plutôt que de les balayer sous le tapis) et qui s'appuie sur une communication ouverte.

## Fournir l'espace juridique et les ressources locales contribuant à rendre plus efficaces les institutions de GI

La gestion intégrée requiert, à la base, un espace juridique spécialement adapté, ce qui exige parfois de modifier la législation existante ou d'élaborer des lois habilitantes. Les institutions de planification de la GI devraient accomplir les tâches suivantes :

- Créer un espace pour les débats d'idées dans le processus de planification afin d'éviter les réactions réfractaires qui naissent de processus de planification imposés sans tenir compte des besoins et valeurs exprimées au niveau local.
- Adopter une perspective d'inclusivité à long terme (p. ex. qui reconnaît et permet l'expression des droits des communautés locales et des Premières nations) et concentrer l'attention sur la création de conditions identiques pour tous les participants de façon à ce que le poids des acteurs économiques ou politiques ne soit pas trop prépondérant.

- Viser l'établissement de relations productives entre les communautés et les écosystèmes et prévoir un mécanisme permettant de trouver un défenseur des écosystèmes; cerner les risques potentiels et les éléments de risque, les enjeux en termes de capacité et les effets cumulatifs.
- Elaborer des mécanismes efficaces permettant d'inclure dans le processus de planification les connaissances issues du milieu local et de partager l'information de manière à favoriser le co-apprentissage (p. ex. par l'entremise de méta-bases de données et de diverses formes de partenariat entre universités et communautés).

## Une réflexion sur les multiples paliers de la gouvernance de la GI

Les différentes échelles spatiales de la GI méritent une attention particulière. Les grandes superficies souvent retenues dans la GI (telles que de vastes superfcies de gestion des océans) peuvent paraître trop vastes lorsqu'on les regarde du point de vue d'une communauté. À la place, ou en complément, mettre l'accent sur des communautés ou des problèmes spécifiques peut augmenter l'efficacité des initiatives de GI, comme en témoignent l'expérience de gestion de la pollution terrestre qui affecte les rivières et les plages du bassin d'Annapolis ou l'initiative visant à améliorer la planification au port de Saint-Jean. L'élargissement d'initiatives et d'institutions de petite taille au niveau régional ou national doit être soutenu par des conseils ou tout autre organisme délégué-rant approprié. Les communautés sont impatientes d'assister au démantèlement enchevêtré des compétences et s'attendent à ce que les liens entre ces différents niveaux donnent des résultats.

Les différents partenaires de la CURA ont cerné plusieurs facteurs clés favorisant la mise en oeuvre de la GI. Tout d'abord, il est apparu clairement que les objectifs de pacification des conflits et de viabilité environnementale ne pouvaient être poursuivis au détriment des avantages au niveau local ni résulter en une atteinte à l'équité sociale parmi les utilisateurs des ressources publiques (Ciclin-Sain et Knecht, 1998, p. 129). Deuxièmement, afin d'éviter des résultats inéquivalables, les partenaires communautaires sont d'avis que la collaboration doit être au coeur du processus de GI et qu'elle doit permettre à différents intervenants de négocier les

## Les recettes communautaires d'une véritable GI

La Coastal CURA s'est questionnée sur la signification du concept de GI : à quoi ressemble la GI sur le terrain? Quels résultats doit-on viser? Comment mesure-t-on la progression de la GI? Dans le cadre d'un exercice, nous sommes attardés aux éléments qui décrivent le mieux les principales valeurs qui devraient animer la GI de même qu'aux caractéristiques souhaitables d'un processus de GI. Ces éléments sont décrits ci-dessous à l'aide du vocabulaire communautaire, qui ont énoncé puis regroupé ces caractéristiques sous les thèmes des valeurs, de la gouvernance, de la gestion de la prise de décision et des résultats.

## Caractéristiques et valeurs communautaires de la GI

politiques publiques sur la base de critères multiples et d'une prise de décision participative visant une zone écologique côtière ou marine en particulier (Turner, 2000). Pour l'équipe de la CURA plus la population canadienne dans des discussions portant sur le système de valeurs et les objectifs qui sous-tendent les exercices de planification (Keen et Mahanty, 2006 : 502).

- **Valeurs** : Le respect intergénérationnel; la recherche du consensus; prenant sérieusement en considération la perspective autochtone; fondé sur des lieux; la communauté vue comme partenaire et non comme client; inclusif; respectant les droits humains; reconnaît l'importance de chaque intervenant; sécurité alimentaire.

- **Gouvernance** : Recouvrer l'autorité locale; inspirée par des valeurs communautaires; dialogue communautaire; centrée sur l'apprentissage; coopérative; autonomie gouvernementale; une démocratie développée.



ment parce que chacun des groupes participant au processus (gouvernements, organisations non gouvernementales, communautés, pêcheurs non autochtones et touristes) avait sa propre conception de ce qui constitue une utilisation appropriée et durable de la baie Malpèque. Par ailleurs, les ministères utilisent leur mandat pour compartimenter la

## Analyse : l'engagement des communautés dans la gestion intégrée

Les études de cas précédentes témoignent d'une grande diversité d'expériences et offrent une perspective locale unique sur la façon dont des gens peu-vent travailler ensemble à la création d'institutions de GI fondées sur les communautés. Nous avons noté un sentiment d'urgence de plus en plus présent dans les communautés au moment où la diminution des stocks de ressources vitales et une dégradation croissante de l'environnement affectent la vie des gens. Pour que la GI puisse contribuer de manière significative à un avenir plus durable, il faut plus rapidement mettre en place des institutions de gestion intégrée et trouver des solutions qui reçoivent le soutien de la communauté. Si nous avons observé à plus d'une reprise que des communautés reconnaissent le bien-fondé et cherchaient à élaborer des processus de GI, cette tâche demande un leadership difficile à exercer au niveau communautaire. Il en va de même pour la transformation de processus d'initiatives communautaires en institutions de GI formalisées. Par exemple, dans le cas du port de Saint-Jean, si les pêcheurs ont tenté de mettre en place des mécanismes de GI adaptés et ont obtenu certains succès par l'entremise du travail réalisé par des comités ad hoc, il n'existe pas encore de processus formel de GI. Il faut reconnaître qu'un leadership inspire, d'où qu'il provienne, est essentiel au bon fonctionnement et à la pérennité des processus de GI. À

l'occasion, ce leadership émane des communautés elles-mêmes et si l'institutionnalisation tarde souvent à se concrétiser, on trouve des exemples de réussite dans plusieurs communautés. Tel que souligné dans les études de cas précédentes, plusieurs solutions à des problèmes locaux ont émané des communautés elles-mêmes.

Les expériences de GI de nos partenaires des communautés côtières font ressortir les interrelations, ou l'absence d'interrelation, entre les efforts déployés par la société civile pour relever des défis locaux d'une part, et l'élaboration et la mise en œuvre de politiques au sein des gouvernements, d'autre part. Ces expériences font également ressortir la nécessité de créer des liens entre les communautés et les gouvernements en ce qui a trait aux éléments qui composent la GI, aux processus désirés par les intervenants ainsi qu'aux résultats attendus d'une GI (Wilson et Wiber, en cours d'impression). En conséquence, il faudra corriger l'écart entre la réalité des politiques publiques actuelles et les attentes de la population pour que tout le potentiel offert par la *Loi sur les Océans du Canada* et d'autres lois similaires puisse se concrétiser et pour que leur mise en œuvre contribue à une utilisation durable et équitable des ressources côtières et océaniques du Canada.

Nous tirons quatre enseignements principaux de notre recherche sur les expériences côtières dans les Provinces maritimes sur la façon de remédier, dans une perspective communautaire, aux lacunes liées à la mise en œuvre de la GI.

## L'inclusion des valeurs de la communauté dans la GI

L'élaboration d'une approche participative de la GI exige une réflexion quant aux acteurs à impliquer, aux modalités de leur participation de même qu'à la façon de soutenir cette implication. Il est souhaitable de débiter par une participation communautaire élargie. Les gouvernements doivent par ailleurs reconnaître les différences qui existent entre les types d'intervenants. Le terme « intervenants » n'est d'ailleurs pas bien accueilli dans une perspective communautaire. Et comme tout processus de planification doit d'abord impliquer ceux qui seront les plus directement touchés, les « communautés » et les « Premières nations » deviennent des intervenants de premier ordre dans ce processus de planification.

## L'accent sur la participation communautaire est essentiel à la GI

Les communautés réclament une planification à long terme qui permettra de réduire la pauvreté, de donner priorité aux besoins locaux et de reconnaître leurs droits d'accéder aux ressources locales, ce qui implique de porter une attention particulière aux interrelations de « l'écosystème/réseau de nourriture » qui font le pont entre les composantes vitales d'un écosystème et les moyens de subsistance des communautés. En tenant compte du cycle de vie total dans la protection des moyens de subsistance, les jeunes comme les plus vieux peuvent choisir d'adhérer au processus ou d'en sortir.

défauts de fonctionnement des usines de traitement des eaux usées ont forcé la fermeture de la majorité des plages du Bassin d'Annapolis à la pêche aux coquillages et réduit ainsi davantage la pêche locale.

**Actions communautaires :** Plusieurs initiatives ont été mises de l'avant afin de renforcer les capacités au niveau local. Par exemple, en 2005, un projet de pêche aux coquillages a démontré la viabilité du réensemencement. Ce projet a permis de rouvrir certaines plages à la suite d'un partage d'information sur la qualité de l'eau provenant de CARP, d'Environnement Canada, de l'ACIA, du MPO et MRC a assuré la coordination des activités.

**Enseignements :** Les résultats auraient sans doute été différents et le mécontentement exprimé par certains intervenants aurait pu être évité si les processus de consultation prévus dans la législation provinciale avaient été respectés dans le cadre de l'octroi des permis d'aquaculture. Le milieu communautaire l'a démontré à plusieurs reprises : il a la capacité de mettre en place des processus de GI efficaces en temps opportun. Afin de bien répondre aux enjeux soulévés, il a cependant besoin d'un soutien gouvernemental.

## La Confédération des Mirkmaq de l'I.-P.-E. (CMIFE), Plan de gestion intégrée de la baie Malpèque

**Les institutions communautaires de GI :** La CMIFE est un conseil tribal sans but lucratif et un organisme provincial et territorial (OPT) au service des Premières nations de Lennox Island et Abegweit. La Direction de la gestion intégrée des ressources (DGIR), créée par le Conseil d'administration de la CMIFE, aura notamment comme mandat de faire avancer l'élaboration d'un plan de GI de la baie Malpèque, ce qui inclut la détermination des ressources et des intervenants de la baie et la collecte de données sur l'utilisation des ressources dans les environs.

**Actions communautaires :** La CMIFE a mené une enquête sur l'utilisation historique des ressources par les Mirkmaq de l'I.-P.-E., qui comprend des entrevues et une cartographie des sites traditionnels d'approvisionnement en ressources mi'kmaq. Cette enquête a jeté les bases d'un processus visant à définir une vision commune de la baie auquel participent tous les membres de la communauté, qu'ils soient membres d'une Première nation ou non. Un film en cours de production cernera cette vision pour la présenter à un public plus vaste.

**Enseignements :** L'élaboration d'un plan de gestion intégrée pour la baie Malpèque a posé de nombreux défis, notam-

activités sont coordonnées par le Clean Annapolis River Project (CARP), une organisation non gouvernementale locale. Les autres membres comprennent le Bay of Fundy Marine Resource Centre (MRC), des associations locales de pêche aux palourdes, la Première nation de Bear River, des représentants d'usines de transformation de palourdes et des représentants de tous les niveaux de gouvernement. L'AWRC a collaboré avec les pêcheurs de coquillages sur la restauration des habitats et des tentatives de réensemencement de la palourde et a coordonné ses activités avec celles des autorités responsables de la production d'énergie marémotrice et celles responsables des effluents municipaux. Cependant, la privatisation des plages est venue entraver les activités de l'AWRC. Depuis 1997, une seule entreprise détient un permis autorisant la pratique de l'aquaculture sur un parc de 1 682 hectares dans la baie de St. Mary's. À ce jour, l'entreprise n'a pêché que des stocks naturels et n'exploite qu'une usine de dépurateur des mollusques et crustacés provenant de plages fermées situées dans les environs. Comme ces plages fermées constituent sa source première d'approvisionnement en coquillages, rien n'incite l'entreprise à apporter des améliorations à l'habitat de la plage. Par ailleurs, les fermures de plages sont également plus fréquentes. En 2008, des changements dans les protocoles régissant les

**Enjeu :** Depuis des millénaires, la baie Malpèque est indispensible à l'approvisionnement en nourriture, au transport et aux loisirs des Premières nations de l'I.-P.-E. Dans les dernières années, la diversification des activités dans la baie Malpèque a donné lieu à des conflits entre les voyageurs, les aquaculteurs, les pêcheurs et d'autres usagers qui dépendent de la baie pour gagner leur vie ou entreprendre des activités de développement économique. Si la majeure partie de la production régionale de jeunes huîtres provient de la baie Malpèque, les problèmes environnementaux y sont de plus en plus fréquents. L'augmentation de l'aquaculture dans la baie réclamée par certains aurait non seulement un impact sur l'approvisionnement en nourriture des Premières nations et sur leurs droits de pêche cérémoniels; elle pourrait n'être tout simplement pas soutenable étant donné les problèmes environnementaux actuels.

**Pouvoirs réglementaires :** Au fédéral: le MPO, Environnement Canada, Transport Canada, Affaires indiennes et du Nord Canada et l'ACIA. Au provincial: le ministère des Pêches, de l'Aquaculture et du Développement rural et le ministère de l'Environnement.



**Enjeu :** La gestion du port international de Saint-Jean présente de nombreux défis environnementaux (les eaux de ruissellement agricole et forestier, les usines de pâtes et papiers, les raffineries de pétrole, les infrastructures utilisées pour les cargos et les bateaux de croisières, le dragage du port et la décharge des résidus de dragage ainsi que des effluents municipaux non traités). Les utilisateurs locaux du port, surtout les pêcheurs côtiers, subissent également les impacts de l'expansion rapide du secteur pétrochimique et des mesures de sécurité mises en place suite aux événements du 11 septembre 2001.

**Pouvoirs réglementaires :** plusieurs ministères fédéraux (le MPO, Transport Canada, Environnement Canada) et organismes régionaux (Administration portuaire de Saint-Jean), provinciaux et municipaux ont des pouvoirs réglementaires.

**Les institutions communautaires de GI :** Les activités de la Fundy North Fishermen's Association ont entraîné la création de plusieurs comités ad hoc œuvrant sur des enjeux spécifiques de la gestion portuaire, incluant l'impact du déversement des résidus de drainage sur les homards en migration, les restrictions visant les quais à la suite des événements du 11 septembre 2001, la construction d'un terminal de gaz naturel liquéfié et l'augmentation du trafic portuaire qui se traduit par une perte de matériel de pêche. Au nombre des comités, on compte le comité sur le dragage et l'immersion (dirigé par Environnement Canada), le comité sur les quais de Saint-Jean (dirigé par Ports pour petits bateaux/MPO), le comité de liaison avec la communauté sur le gaz naturel liquéfié (dirigé par Canaport LNG)

**Enjeu :** En raison de la pollution terrestre et des problèmes saisonniers de qualité de l'eau, des toxines ont été retrouvées dans les mollusques et crustacés et des plages productives ont dû être fermées; par ailleurs, la destruction des habitats et la surpêche ont entraîné une diminution des stocks.

**Pouvoirs réglementaires :** Environnement Canada analyse la qualité de l'eau et désigne les secteurs de croissance coquillière; le MPO contrôle la pêche, le transport et le lavage des mollusques et crustacés, de même que l'ouverture et la fermeture des zones de croissance des mollusques et crustacés. L'Agence canadienne d'inspection des aliments (ACIA) réglemente pour sa part la manipulation, la trans-

## La baie de St. Mary's, Nouvelle-Écosse : la salubrité des mollusques et crustacés, le Annapolis Watershed Resource Committee et la privatisation des plages

**Pouvoirs réglementaires :** plusieurs ministères fédéraux (le MPO, Transport Canada, Environnement Canada) et organismes régionaux (Administration portuaire de Saint-Jean), provinciaux et municipaux ont des pouvoirs réglementaires.

**Les institutions communautaires de GI :** Les activités de la Fundy North Fishermen's Association ont entraîné la création de plusieurs comités ad hoc œuvrant sur des enjeux spécifiques de la gestion portuaire, incluant l'impact du déversement des résidus de drainage sur les homards en migration, les restrictions visant les quais à la suite des événements du 11 septembre 2001, la construction d'un terminal de gaz naturel liquéfié et l'augmentation du trafic portuaire qui se traduit par une perte de matériel de pêche. Au nombre des comités, on compte le comité sur le dragage et l'immersion (dirigé par Environnement Canada), le comité sur les quais de Saint-Jean (dirigé par Ports pour petits bateaux/MPO), le comité de liaison avec la communauté sur le gaz naturel liquéfié (dirigé par Canaport LNG)

**Enjeu :** En raison de la pollution terrestre et des problèmes saisonniers de qualité de l'eau, des toxines ont été retrouvées dans les mollusques et crustacés et des plages productives ont dû être fermées; par ailleurs, la destruction des habitats et la surpêche ont entraîné une diminution des stocks.

**Pouvoirs réglementaires :** Environnement Canada analyse la qualité de l'eau et désigne les secteurs de croissance coquillière; le MPO contrôle la pêche, le transport et le lavage des mollusques et crustacés, de même que l'ouverture et la fermeture des zones de croissance des mollusques et crustacés. L'Agence canadienne d'inspection des aliments (ACIA) réglemente pour sa part la manipulation, la trans-

## Encadré 2 Les multiples niveaux d'intégration dans la gestion intégrée des zones côtières et des océans

- L'intégration intersectorielle met en relation les différents groupes et intervenants provenant de secteurs divers, tels que les pêches, le tourisme, le pétrole et le gaz, etc.
- L'intégration intergouvernementale rassemble des intervenants des différents paliers de gouvernement (national, provincial et local).
- L'intégration spatiale relie la terre (incluant les bassins versants et les rivières) aux océans.
- L'intégration des sciences et de la gestion inclut les sciences naturelles et sociales (nous ajoutons également la connaissance écologique traditionnelle).
- L'intégration internationale fait le pont entre la réglementation locale, provinciale et nationale et les conventions et normes émergentes au niveau international (Cicin-Sain et Knecht, 1998).

côtières et les océans sont également la source de services écologiques vitaux et d'une grande partie des stocks mondiaux de poissons, le développement rapide des zones côtières et les changements climatiques sont une menace à la qualité de l'environnement et au bien-être des populations. Sous la pression du développement, des usagers de longue date sont parfois forcés de quitter la côte, créant de la concurrence et des conflits. Ces enjeux se retrouvent dans la plupart des pays, et le Canada n'y fait pas exception.

La gestion des zones côtières est encadrée par des conventions et déclarations internationales, telles que la Convention des Nations Unies sur la loi des mers (1982), la Convention sur la biodiversité (1992) et la Déclaration de Rio (Cicin-Sain et Belfiore, 2005), qui ont mis en lumière certaines formes d'intégration, tel qu'il illustre dans l'encadré 2.

En réponse à ce cadre normatif, le Canada a élaboré des directives régissant la gestion intégrée des zones côtières et

des océans dans sa *Loi sur les océans* (Canada, 1996, chapitre 31), qui autorise le ministre des Pêches et Océans (MPO) à travailler « en collaboration » avec d'autres personnes et organismes, dont les intervenants locaux. Cependant, tel que souligné par le Vérificateur général du Canada, le Comité sénatorial permanent des pêches et océans et de nombreux chercheurs du milieu universitaire, cette collaboration ne s'est jamais vraiment concrétisée. Les approches de GI ont plutôt été mises en œuvre sans l'appui des communautés visées et ont engendré de l'opposition au niveau local. Cet article démontre que cette situation peut être évitée en adoptant une approche communautaire.

### Les perspectives communautaires sur la gestion intégrée

Au cours des dernières années, une coalition unique de communautés des Premières nations, d'associations de pêcheurs, d'universités et de centres d'études des ressources côtières a réper-

torié les processus de gestion intégrée des zones côtières et a développé les capacités des communautés à participer à ces processus. Cette initiative a été soutenue par le projet de la Coastal Community-University Research Alliance (CURA), qui recense et partage les apprentissages issus des expériences dans trois Provinces maritimes. Les auteurs remercient le Conseil de recherche en sciences humaines du Canada de son soutien<sup>2</sup>.

Parmi les initiatives auxquelles participent nos partenaires des communautés, on compte l'élaboration de plans de gestion fondés sur les écosystèmes (baie Malpeque, I.-R.-É.), la revitalisation de bassins versants (rivière Bear, N.-É.), la revitalisation et le réensemencement de l'habitat des mollusques et crustacés (bassin d'Annapolis, N.-É.), la gestion portuaire (port de Saint-Jean, N.-B.), la gestion de la pêche du poisson de fond (Fundy Fixed Gear Council, N.-É.), la planification de l'implantation d'un site d'aquaculture (sud-ouest du Nouveau-Brunswick) et des plans de gestion courants (Marine Resources Planning Initiative). Parmi les exemples concrets de GI communautaire étudiés par la Coastal munaautaire étudiés par la Coastal CURA, nous en proposons trois ci-dessous qui sont particulièrement représentatifs - un provenant de la Nouvelle-Écosse, un du Nouveau-Brunswick et un dernier de l'Île-du-Prince-Édouard. Pour chacun d'eux, nous décrivons le problème rencontré, les pouvoirs réglementaires pertinents, les institutions locales impliquées, les actions communautaires et les enseignements à tirer. Nous discutons des enjeux liés à la communication entre la communauté et le gouvernement et des succès à la base qui mettent en lumière les différences approches retenues par les communautés dans leur quête d'une GI.

2 Au nombre des publications, on compte Charles (2008); Kearney et coll. (2007); Wiber et Bull (2009); Wiber et Kearney (1996); et Wiber et coll. (2003, 2009).



## Les défis de l'implantation d'une gestion intégrée

Il n'est pas surprenant que les gouvernements, y compris ceux du Canada, aient mis du temps à élaborer des politiques publiques fidèles aux aspirations de la Déclaration de Rio, particulièrement en ce qui concerne la gouvernance participative. En effet, plusieurs obstacles doivent être surmontés. D'abord, plusieurs instances se partagent souvent la compétence d'écosystèmes uniques, et les « champs d'interventions statutaires des différentes autorités de même que certaines restrictions juridiques

**Les communautés**  
**réclament une planification à long terme**  
**qui permettra de réduire la pauvreté, de donner priorité aux besoins locaux et de reconnaître leurs droits d'accéder aux ressources locales, ce qui implique de porter une attention particulière aux inter-relations de « l'éco-système/réseau de nourriture » qui font le pont entre les composantes vitales d'un écosystème et les moyens de subsistance des communautés.**

certains entravant la coopération entre ces autorités peuvent nuire à la gouvernance participative» [traduction]. Deuxièmement, diminuer les questions d'équité se posent lorsque certaines activités à grande échelle génèrent des profits pour un petit nombre et des coûts qui sont supportés par les communautés et l'environnement. Troisièmement, il n'existe aucun cadre de contrôle et d'évaluation de la GI généralement accepté. D'ailleurs, peu d'initiatives de GI comportent des indicateurs de performance. Quatrièmement, les initiatives de GI se font souvent à grande échelle et mettent l'accent sur les espaces plutôt que sur les gens (p. ex., elles analysent de vastes espaces de gestion de l'environnement marin), ce

## Encadré 1 Une comparaison des définitions de la gestion intégrée

« une méthode globale de planification et de gestion des activités humaines qui assure leur compatibilité et qui tient dûment compte de tous les facteurs pour la conservation et l'utilisation durable des ressources marines et le partage de l'espace marin... »  
 MPO, 2005, p. 11 et 19

« un processus continu et dynamique qui met en relation le gouvernement et la communauté, la science et la gestion, l'intérêt public et les intérêts sectoriels dans la préparation et la mise en œuvre d'un plan intégré visant la protection et le développement des écosystèmes et des ressources côtières. »  
 GESAMP, 1996, dans Bastien-Daigle et coll., 2008, p. 97

qui peut paraître incompatible avec les besoins et aspirations des habitants de ces lieux. Dans le monde gouvernemental, la GI est définie de manière plus étroite (comme démontrée dans la case de gauche de l'encadré 1) et fait peut-être abstraction de la collaboration participative et des occasions de co-apprentissage pour nous, pour vaincre les obstacles à une réelle GI (comparer à la définition présentée dans la case de droite encadré 1).

Ces défis sont particulièrement complexes. Si l'on veut mettre sur pied des institutions capables d'intégrer à différents niveaux le processus de planification des ressources naturelles, il faudra relier entre elles, verticalement et horizontalement, les agences

**La gestion intégrée des côtes canadiennes**  
 Les zones côtières du monde entier subissent un stress important. En effet, une proportion croissante de la population mondiale vit sur un littoral, où l'on retrouve également la plus grande part des infrastructures humaines, des activités industrielles, de transport et de commerce, de transformation des sources d'énergie, de communications et de services de même qu'une part disproportionnée de la consommation mondiale et de la production de déchets (Tobey et Volk, 2002, p. 287). Et comme les zones

Canada.

gouvernementales existantes. Cela dit, de tels efforts ne suffiront pas. Selon Keen et Mahany (2006), deux conditions sont essentielles à l'atteinte d'une véritable gestion intégrée : il faut d'abord une discussion ouverte sur les valeurs et les objectifs mis de l'avant lors d'exercices de planification visant un espace géographique spécifique ainsi qu'un partage de l'information pertinente, ce qui permettra d'élargir la base de connaissances et d'habiletés qui serviront à la prise de décision. Attardons-nous maintenant au besoin urgent de mettre sur pied de telles institutions dans les zones côtières du

Les directives internationales sur la GI soulignent l'importance du principe de gouvernance participative, du développement durable et de la protection environnementale (p. ex. le PNUE). Si les études provenant des quatre coins du monde témoignent de l'importance de la participation du public (Tobey et Volk, 2002, p. 290), la notion de gouvernance participative demeure une des dimensions de la GI qui reçoit le moins d'attention (Kearney et coll., 2007).

Cet article, qui porte sur les océans et régions côtières, examine les défis liés à la participation du public par l'entremise d'une analyse du rôle des communautés dans la GI. Il s'appuie sur les résultats d'une décennie de collaboration entre des universitaires et des partenaires de développement durable et de comblement des fossés qui se creuse de plus en plus entre ces deux types d'acteurs. Grâce à trois exemples concrets, il témoigne également des expériences variées de la GI des communautés côtières locales. Ces exemples permettent de cerner un ensemble de valeurs et caractéristiques essentielles à la GI aux yeux de la communauté, de même qu'un processus en quatre étapes visant à rendre possible et à faciliter la GI du point de vue de la communauté. La conclusion résume les principaux résultats touchant l'inclusion et la participation active des communautés.

## Introduction

La Déclaration de Rio (1992, Conférence de l'ONU sur l'environnement et le développement) a fait ressortir l'importance de la gestion intégrée (GI) dans la perspective d'un développement durable des côtes, des océans, des bassins versants, des forêts et des plateaux. Cela dit, le concept revêt aujourd'hui beaucoup d'autres significations. Par exemple, il désigne tantôt une approche multidisciplinaire visant à concilier la viabilité de l'environnement biophysique avec la croissance et la richesse économiques (Olsen, 2003) et tantôt une approche de planification collective qui prend en considération les objectifs à dimension sociale, économique, institutionnelle, environnementale et juridique d'une multitude d'intervenants et les ressources qui font

# La gestion intégrée : une approche fondée sur les communautés côtières

l'objet de cette gestion (Christie et coll., 2005). Parmi les éléments qui exigent une « intégration », on compte les différents champs de compétences politiques et juridiques, les caractéristiques des écosystèmes, les utilisations conflictuelles, les besoins sociaux, culturels et économiques, divers systèmes de connaissance et les mécanismes de contrôle des impacts anthropiques.

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## Le programme GéoConnexions et les approches adaptées au milieu de l'aménagement du paysage

GéoConnexions est un programme national actuellement administré par Ressources naturelles Canada et qui vise à aider les décideurs à relever certains des défis les plus pressants du Canada grâce au recours à la géomatique, discipline qui consiste à recueillir, stocker, traiter et livrer des renseignements géographiques dans des systèmes cartographiques évolués et interactifs. MapQuest<sup>MC</sup> et Google Earth<sup>MC</sup> en sont des exemples bien connus. GéoConnexions favorise l'utilisation de la géomatique en soutenant et étendant l'infrastructure canadienne de données géospatiales (ICDG), système chargé de formaliser la structure et le processus d'organisation, d'utilisation et de partage des données et services géospatiaux au Canada. À ce jour, GéoConnexions a aidé les décideurs à régler des problèmes allant de la santé et la sécurité publiques à l'environnement et au développement durable.

Tous les paliers de gouvernement mettent en œuvre des approches globales de gestion des paysages, des écosystèmes, des bassins versants, des zones côtières, des océans, etc. Souvent, on a recours à l'aménagement intégré du paysage (AIP) pour bien cerner ces approches globales. L'AIP est, en elle-même, une approche « adaptée au milieu » qui se prête bien à l'utilisation des données géospatiales et des technologies de la géomatique, surtout lorsqu'on l'utilise conjointement avec des programmes de prévision et de modélisation. L'intégration

Une description plus détaillée de cette initiative se trouve sur le site du Projet de recherche sur les politiques <www.prp-pri.gc.ca>

Les technologies de la géomatique et les données géospatiales sont les piliers de la réussite de l'aménagement intégré adapté au milieu. À mesure que le recours aux approches adaptées au milieu progresse, on assistera à une augmentation correspondante des attentes quant à la précision, l'actualité et la fiabilité des données géospatiales provenant de sources qui s'intègrent et s'analysent facilement sans le recours à une expertise spécialisée, ce qui confère encore plus d'importance à des projets comme GéoConnexions et IMAGINE Canada.

L''utilisation de la géomatique pour régler des questions d'adaptation au milieu a contribué à l'amélioration des évaluations environnementales (EB) et de la planification de l'utilisation du territoire. Par exemple, le ministère de l'Environnement de la Nouvelle-Écosse a mis au point un outil en ligne de planification de projet géomatique et de prise de décision dans le but d'améliorer les EB provinciales. Dans la même veine, Affaires indiennes et du Nord Canada, en collaboration avec le gouvernement des Territoires du Nord-Ouest, a créé le système de surveillance du Projet gazier Mackenzie (PGM) et le portail gazier Mackenzie, rendant disponibles diverses données gouvernementales adaptées au milieu pour faciliter la prise de décisions liées au projet de pipeline.

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au grand public de disposer d'un accès interactif à des cartes nationales thématiques, à des cartes illustrant les enjeux et à des cartes stratégiques, et en rendant des cartes dynamiques à partir de bases de données nationales comme l'Inventaire national des rejets de polluants.

Le lancement du programme GéoConnexions en 1999 a accru l'accessibilité aux nouvelles technologies et leur utilisation comme les systèmes mondiaux de localisation et la cartographie sur Internet. L'ICDCA a été fondé pour améliorer la diffusion, l'accès, l'intégration et l'utilisation de l'information géographique. L'investissement initial de 60 millions de dollars (1999-2005) a permis de collecter 110 millions de dollars supplémentaires pour atteindre ces objectifs. La seconde phase du programme GéoConnexions (2005-2011) a fait de la gestion intégrée du paysage (GIP) une de ses priorités et a appuyé **IMAGINE Canada** (Réseau pour la gestion intégrée et l'information géospatiale pour l'environnement) pour favoriser un rapprochement entre les bases de connaissances de la GIP, les technologies géospatiales et les systèmes d'aide à la décision afin de permettre des applications à l'échelle nationale et régionale. Le **Réseau GEOIDE** (La géomatique pour des interventions et des décisions éclairées) financé par le programme des Réseaux de centres d'excellence vient compléter ces initiatives en appuyant la recherche et le réseautage en géomatique au Canada. Parmi ses objectifs centraux figurent la gestion durable des ressources de la terre et de la mer, les risques naturels et de l'environnement.

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Le gouvernement fédéral doit considérer le SCDD comme un débouché stratégique permettant de modifier son rôle de construction d'infrastructures traditionnelles pour s'orienter vers un rôle qui favorise la mise en place de nouvelles infrastructures du savoir indispensables à la nouvelle économie, au développement durable et qui permettent de s'adapter

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aux changements climatiques. Il devrait mettre au point un cadre stratégique (peut-être par l'intermédiaire d'un bureau de planification interministérielle, qui s'est avéré un moyen efficace pour mettre en place les programmes de télé-détection au Canada) permettant de se préparer à endosser un rôle moteur à l'échelle nationale. Le leadership à l'époque d'Internet se traduit par une série de petits investissements judicieux et par un modèle d'activités qui permet à tous les intervenants de participer, de partager, de faire une contribution et d'en retirer des avantages. De nombreux programmes et initiatives stratégiques fédérales pourraient directement profiter de l'intégration horizontale et des connaissances transmises par la multitude d'intervenants que le SCDD pourrait apporter. De nombreux programmes comme GéoConnexions ou GEOIDE pourraient contribuer énormément à modifier l'orientation de l'infrastructure en la faisant passer d'une infrastructure de données (un concept des années 1990) à une infrastructure de connaissances.

Imaginez simplement le Canada lorsque la puissance des outils de réseautage social aura transformé la mise en réseau des connaissances et le pouvoir de visualisation des jeux vidéo incorporés à la modélisation géospatiale et aux systèmes d'aide à la décision. Ces derniers pourraient ensuite servir à visualiser des politiques ou des scénarios d'adaptation du paysage à l'avenir. ●



nationaux; la surveillance de l'utilisation des terres (p. ex. la perte de potentiel agricole élevé et la disparition des zones humides autour des zones urbaines); la cartographie de la sensibilité terrestre aux pluies acides; la surveillance et l'évaluation des dégâts causés par la tordeuse des bourgeons de l'épinette.

des bourgeons de l'épinette.

## Le Programme canadien de télédétection

Au moment où la mise au point du système d'information géographique en était à ses débuts au Canada, le nouveau domaine de télédétection aérien et satellitaire voyait le jour. En 1970, le Bureau interministériel d'aménagement sur la télédétection obtenait l'autorisation de modifier une station de réception de signaux par satellite à Prince Albert en Saskatchewan afin de recevoir des données émises par le « Earth Resources Technology Satellite » (ERTS) de la NASA. La prospection pétrolière et une sensibilisation accrue à l'environnement ont poussé le gouvernement fédéral à financer cette initiative et à veiller à ce que les Canadiens disposent d'une facilité d'accès équivalente voire meilleure que celle de leurs voisins à cette nouvelle source d'information sur les terres et l'eau ainsi que sur les forêts et les ressources minérales du Canada. L'objectif premier était de générer des données et de l'information par télédétection nécessaires à une gestion rapide et efficace des ressources naturelles et de l'environnement ainsi qu'à un appui de la recherche et du développement et concernant la collecte, le traitement et l'interprétation de ces données.

L'utilisation intelligente des ressources du secteur privé canadien (y compris Computing Devices of Ottawa et MacDonald-Dettwiler and Associates Ltd.) ont permis au Canada de recevoir et d'analyser les premières images transmises par le satellite ERTS une semaine avant que la NASA soit en mesure de le faire. Cette réalisation a jeté les bases permettant à MacDonald-Dettwiler and Associates de s'accaparer le marché mon-

dial des stations de réception de signaux par satellite émis par ERTS/ LANDSAT et SEASAT. Par l'entremise du Conseil consultatif canadien de télédétection (CCCT), un programme fédéral-provincial vaguement intégré a été mis au point et a entraîné la création de centres d'interprétation provinciaux de télédétection et des centres d'excellence dans les universités canadiennes.

Dettwiler and Associates qui a bâti son succès sur le rapprochement entre les systèmes de télédétection, les systèmes d'information géographique et la gestion de ressources.

## Infrastructure canadienne de données géospaciales (ICDG). Le Comité

interministériel pour la géomatique (CIG) à l'échelle fédérale a travaillé pendant de nombreuses années dans l'objectif d'améliorer la collecte, la gestion et l'intégration de l'information géographique en vue de renforcer la place fructueuse du programme Radar-sat et le lancement des radars-satellites canadiens 1 et 2 résistants à toutes les conditions météorologiques. Une fois de plus, les premières étapes qui ont mené au radar-satellite se sont faites par l'intermédiaire d'un bureau interministériel d'aménagement. L'industrie canadienne de la géomatique a vu sa compétitivité à nouveau renforcée sur les marchés mondiaux, à l'exemple de MacDonald-

<http://ess.nrcan.gc.ca/ercc-rrcc/proj3/themeb6/images/index\_11.jpg>  
<http://ess.nrcan.gc.ca/ercc-rrcc/proj3/themeb6/index\_f.php>



Figure 7  
Indice de surface foliaire provenant du satellite SPOT –  
Indicateur d'absorption du carbone

En 1963, le travail de conception du Système canadien d'information géographique (SCIG) commençait.

En 1965, le SCIG lançait le premier scanner optique au monde capable de lire des cartes à l'échelle 1:30 000 en format numérique (désormais exposé au musée des sciences et de la technologie d'Ottawa).

En 1971, le SCIG devenait le premier système d'information géographique au monde à être entièrement opérationnel. Il était doté d'une capacité unique à superposer toutes les cartes de l'ITTC, à incorporer des couches socio-économiques, à construire des bases de données se rapportant à l'ensemble du continent et d'effectuer des analyses à l'échelle nationale, provinciale, régionale et locale.

- En 1975, Le SCIG devenait le premier système d'information géographique à offrir à l'échelle nationale un accès à distance à une analyse géographique interactive de ses bases de données intégrées.

Parmi les applications et les utilisations typiques du SCIG, associées à l'ITTC et à de nombreux autres ensembles de données figurent (Thie *et al.*, 1982) l'élaboration de politiques fédérales sur l'utilisation des terres et les zones humides; le Plan nord-américain de gestion de la sauvagine qui appuie les négociations entre le Canada et les États-Unis; les bases de données biophysiques et écologiques destinées à la planification et à la gestion des parcs

forêts modèles (RIFM) qui compte plus de 20 pays et qui s'étend à la plupart des continents.

- **Des plans d'action axés sur les bassins hydrologiques** comme ceux du fleuve Fraser, des Grands Lacs et du fleuve Saint-Laurent constituent des mécanismes efficaces d'intégration horizontale de programmes fédéraux

et provinciaux grâce à la mise en place d'objectifs et de méthodes cohérentes et coopératives de gestion qui reposent sur un principe de durabilité. La concentration de flux financiers importants axés sur des résultats concrets a rendu ces plans d'action intégrés très efficaces.

## Gestion intégrée des terres et information géoréferencée

### Le Système canadien d'information géographique (SCIG). L'ITC a conduit à la création de 30 000 cartes! L'analyse traditionnelle à la main, les surcharges et la présentation pouraient considérablement freiner l'utilisation des données figurant sur les cartes. Roger Tomlinson, considéré par tous comme le père du système d'information géographique, a travaillé avec Spartan Air Services à Ottawa et a étudié avec IBM au début des années 1960 la relation entre les cartes, l'information géoréferencée et les ordinateurs. Une rencontre fortuite à bord d'un avion avec Lee Pratt, le premier chef de l'ITTC, a donné lieu à une étude de faisabilité d'un système d'information géoréferencée destiné à l'ITTC.

## Les problèmes relatifs à la terre, à l'eau et au climat ont conduit le Canada à passer d'une gestion sectorielle à une gestion intégrée des ressources et au développement durable, et en a fait un chef de file dans l'information géographique, la surveillance et les systèmes d'aide à la décision.

faisait partie d'une stratégie globale qui visait à intégrer les réseaux et les sites de surveillance terrestres, aquatiques et atmosphériques au Canada ainsi que les travaux de recherche sur le sujet. L'objectif consistait à voir sous un angle national la façon dont les écosystèmes canadiens sont touchés par les nombreux facteurs agresseurs du milieu, de donner une logique, qui soit justifiable sur le plan scientifique, des politiques de lutte contre la pollution et de gestion des ressources, d'effectuer des évaluations et de rendre compte auprès des Canadiens de l'efficacité des politiques de gestion des ressources et de détecter de nouveaux problèmes environnementaux le plus tôt possible dans leur développement.

- **Gestion durable du paysage de la forêt.** Le Réseau canadien de forêts modèles (RCFM) englobe 14 sites forestiers modèles au Canada. Chaque site fait intervenir de nombreux partenaires qui oeuvrent à mettre en place une gestion durable des forêts et du paysage. Parmi ces partenaires figurent des compagnies forestières, des communautés autochtones, des particuliers, des parcs, des groupes environnementaux, des gouvernements et des universités. Les forêts modèles peuvent être considérées comme des plateformes d'essais pour la science pluridisciplinaire des écosystèmes et la planification participative qui sont des domaines à l'avant-garde de la gestion durable des forêts. Elles offrent une norme et une vitrine aux pratiques de gestion durable des forêts (GDF) au Canada et, associées aux critères et aux indicateurs de GDF, elles confèrent une crédibilité publique et internationale au processus canadien de certification pour l'aménagement forestier. Cette initiative efficace a pris de l'ampleur à l'échelle mondiale par l'intermédiaire du Réseau international de



Le Plan nord-américain de gestion de la sauvagine (PNAGS) montre la façon dont l'aménagement intégré du paysage peut s'appliquer aux questions continentales et être mis en place à l'échelle locale s'ils s'appuient sur une base de connaissances fiables permettant de négocier

## Gestion de la baisse des populations d'oiseaux migratoires

En 1991, en appui du Plan vert et des rapports sur l'état de l'environnement, le Groupe de travail sur la stratification écologique a été constitué en vue de mettre en place un cadre écologique. Ce cadre a été publié en 1996. Il est désormais communément utilisé à l'échelle nationale et internationale comme cadre stratégique pour les politiques, la recherche, la surveillance, l'évaluation et l'établissement de rapports.

L'approche relative au relevé écologique du territoire a été appliquée dans la plupart des parcs nationaux canadiens, dans des évaluations environnementales d'envergure et dans les projets de construction comme le projet hydroélectrique de la baie James. Au milieu des années 1980, on a évalué la sensibilité aux pluies acides dans l'Est du Canada à l'aide des écorégions terrestres et des districts.

La cartographie des écorégions et des écodistricts de la majeure partie du Canada était amorcée, mais elle a pris fin en 1988 lorsque la Direction générale des terres a été transformée en une Direction générale de l'établissement durable et l'état de l'environnement.

- Le Système de classification des terres humides du Canada et la carte des zones humides à l'échelle nationale ont apporté les éléments fondamentaux pour suivre le recul des zones humides et formuler la Politique fédérale sur la conservation des terres humides en 1991.

Figure 6  
Forêts modèles du Canada



Source : <<http://www.modelforest.net/cmfn/en/forests/>>

- **Intégration de la science et la surveillance.** Le Réseau d'évaluation et de surveillance écologiques (RESE) 1990.
- En réponse à l'intérêt qu'a suscité le rapport de la Commission Brundtland, « Notre avenir à tous », la fin des années 1980 et le début des années 1990 ont été témoin de la mise en place d'initiatives intégrées d'envergure, certaines d'entre elles ont été renforcées par le Plan vert de 1990.

crés à la préservation et l'amélioration de l'habitat. Ces initiatives faisaient intervenir une aide financière aux exploitants agricoles afin de préserver l'habitat crucial des étangs des Prairies dans le cadre du Projet conjoint Habitat des Prairies.

des partenariats avec plusieurs intervenants, de fixer des objectifs stratégiques et de concevoir des plans de mise en œuvre. La baisse de la population des oiseaux migratoires dans les années 1980 s'explique par la disparition d'habitat (zones humides) dans les zones critiques où passent les vols migratoires dans l'Ouest et dans l'Est du Canada. En 1986, le Canada et les États-Unis ont signé l'entente du PNAGS; le Mexique l'a signé en 1988. Le plan offre un cadre stratégique permettant d'analyser les questions relatives à la sauvagine en Amérique du Nord et fixe un certain nombre d'objectifs concernant l'habitat et les populations de sauvagine. Les plans conjoints et le financement provenant des gouvernements nationaux et provinciaux ainsi que les flux financiers importants (presque 300 millions de dollars) provenant d'organisations non gouvernementales et sans but lucratif au Canada et aux États-Unis ont été consa-

# Écorégions et aménagement intégré du paysage – un cadre écologique pour le Canada

L'ITC n'a pas passé en revue les deux tiers du Canada. En 1976, pour combler les manques, le gouvernement fédéral et les gouvernements provinciaux mon- tent le Comité canadien de la classifica- tion écologique du territoire (CCCET) afin de poursuivre le développement et l'utilisation d'une approche écologique homogène en matière de classification des terres en ce qui concerne la planifi- cation et la gestion des ressources ainsi que l'évaluation des impacts environne- mentaux. Plus de 600 spécialistes repré- sentant les divers gouvernements, les milieux universitaires, le secteur privé et les organisations non gouvernemen- tales ont collaboré aux groupes de travail et aux produits particuliers, notamment les suivants :

- Le Système national de classification écologique des terres du Canada et le relevé écologique des territoires ont été créé pour cartographier et décrire les sites importants sur le plan écolo- gique ainsi que pour organiser l'info- rmation d'une façon adaptée à la planification et à l'aménagement d'une échelle mondiale à locale.

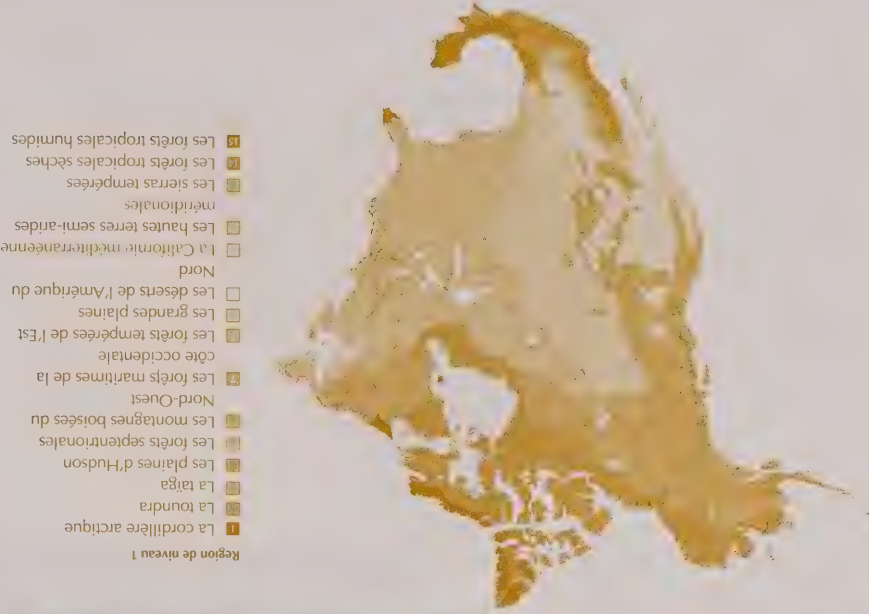
- En 1989, le projet sur les régions éco- climatiques du Canada a permis de cartographier de vastes régions sur la surface de la Terre qui se distinguent par leur adaptation écologique singu- lière au climat. Cette adaptation se traduit dans la végétation et est liée au sol, à la faune, à la biodiversité et à l'eau. Cette carte est un des outils les plus puissants dont on dispose pour élaborer des stratégies et des scénarios d'adaptation aux changements cli- matiques axés sur les écosystèmes au Canada.

Figure 4 Régions écoclimatiques du Canada



Groupe de travail sur les écorégions, Comité canadien de la classification écologique du territoire (CCCET) 1989  
S.C. Zolner, président. *Régions écoclimatiques du Canada*. Série de la classification écologique du territoire, n° 23, Service canadien de la faune, Environnement Canada.

Figure 5 Écorégions en Amérique du Nord



Commission de coopération environnementale (CCE) 1997. *Les régions écologiques de l'Amérique du Nord*. Secrétariat de la CCE, Montréal. ISBN 2-922305-19-8 Page 9  
<http://www.ccc.org/files/PDF/BIODIVERSITY/eco\_fra\_FR.pdf>



1. <<http://geogratis.gc.ca/CL/council.html>>, Conseil canadien de l'aménagement rural 1979.

Thie, J., E.B. Wilken et C.D.A. Rubec. 1986. *Ecological land Survey as Basis for Land resource Planning and Management in Canada. In Land and its Uses - Actual and potential*. NATO Conference Series 1 : Ecology, volume 10, pages 437-452 Plenum Press, New York et Londres.



Figure 3  
Lien entre inventaire écologique et hiérarchie de la planification

En complément de l'ITC, la Direction des terres des Affaires indiennes et du Nord canadien met au point la Série d'information sur l'utilisation des terres nordiques (SIUTN) en 1971. Cette Série fait office de programme de cartographie rapide de reconnaissance sociale et environnementale pour le Yukon et les Territoires-du-Nord-Ouest. La série de cartes comprend une information d'en-semble sur la faune, les ressources en poisson, l'utilisation des terres par les Autochtones, la classification écologique des terres ainsi que les données socio-économiques et culturelles. Les cartes aident à repérer des conflits éventuels dans l'utilisation des terres, à traiter les demandes de permis d'utilisation des terres et à faire un examen préalable des dimensions environnementales et sociales des programmes de prospection et de développement du Nord.

« développement ». On mécon-  
naît toute l'importance que revêt  
l'information. Le contenu de  
l'ITC est neutre, dépourvu de  
jugement de valeur et de plus, il  
est disponible pour tous.<sup>1</sup>

À cette époque-là, les évaluations de l'ITC du potentiel des terres sont très courantes. La protection des terres de première qualité au Canada devient l'élément central de la politique fédérale sur l'utilisation des terres ainsi que des politiques et des dispositions législatives provinciales. La rareté des terres agricoles de premier choix a pesé sur la mise en place de politiques, de dispositions législatives et de zones de protection en Colombie-Britannique, en Ontario, au Québec, à l'Île du Prince-Édouard et à Terre-Neuve et Labrador. Dans ces cas, l'ITC a permis d'établir la liste des priorités des initiatives stratégiques et législatives, mais il a également apporté un cadre de mise en œuvre.

• Publier des cartes et des rapports, et créer à l'échelle nationale une base de données et un système numériques des ressources en terres. Consé-  
quence : le système canadien d'infor-  
mation géographique conçu dans le  
cadre de l'ITC est devenu le premier  
système d'information géographique  
au monde. Les cartes numériques  
qu'il contient sont encore accessibles  
par l'intermédiaire de la composante  
GeoGratis de l'Infrastructure cana-  
dienne de données géospatiales.

Il incombait aux provinces de se charger de la mise en œuvre; elles ont constitué des équipes d'évaluations et de planification d'utilisation des terres et, par la suite, elles ont intégré les résultats à des stratégies, des politiques et des programmes de gestion des ressources en terres tournés vers l'avenir. Certaines provinces, comme le Manitoba, ont formé des équipes coordonnées d'agro-  
normes, d'écologistes, de biologistes, d'économistes, de forestiers, et de spécialistes en loisirs, d'experts en utilisation des terres et des planificateurs afin de procéder à l'évaluation. La Colombie-Britannique a mis sur pied un comité et un secrétariat de l'utilisation des terres afin d'encadrer la mise en œuvre. Dans tous les cas, ces solutions à l'échelle provinciale ont permis de mener à bien les programmes et d'intégrer de façon exceptionnellement rapide les résultats aux politiques, aux dispositions législa-  
tives et à la planification.

Le Conseil canadien sur l'utilisation des terres résume les progrès accomplis.

L'ITC est reconnu comme l'ap-  
port le plus considérable et le plus  
significatif à l'utilisation des terres  
agricoles. En résumé, il semble  
qu'il soit plus approprié pour le  
gouvernement fédéral de collabo-  
rer à l'élaboration du contenu  
« informationnel » plutôt qu'au

Inventaire des terres au Canada, rapport n° 10, 1976. *Possibilités des terres pour l'agriculture*, page 7, Direction générale des terres, Environnement Canada, Ottawa

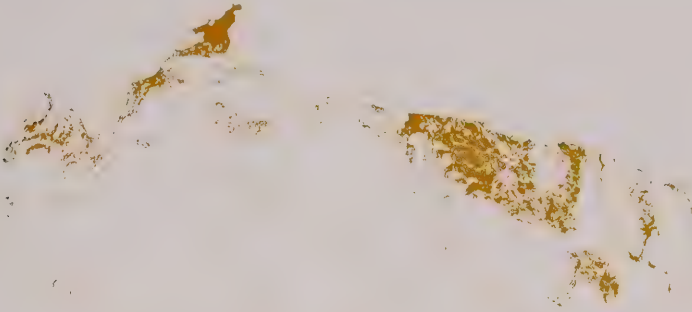


Figure 2  
Les sols offrant un potentiel agricole au Canada

- Favoriser une communauté de pratiques à l'échelle nationale et diriger les projets de planification de l'utilisation des terres. Conséquence : la démarche a accéléré le développement d'institutions et de programmes provinciaux de planification intégrée des ressources.
- Coordonner l'évaluation à l'échelle nationale et diriger les projets de planification de l'utilisation des terres. Conséquence : la démarche a accéléré le développement d'institutions et de programmes provinciaux de planification intégrée des ressources.

## Rôle du gouvernement fédéral dans l'inventaire des terres au Canada et conséquences

- La mise en œuvre rapide du programme a exigé de profonds changements de stratégie dans la coopération, l'organisation et l'intégration horizontale des programmes fédéraux afin de passer d'une perspective provinciale à une perspective nationale et régionale. Le rôle du gouvernement fédéral (en plus de celui d'octroyer des fonds) porte essentiellement sur quatre objectifs :
- Mettre au point une classification compatible sur le plan horizontal et écologique ainsi que des normes nationales d'évaluation. Conséquence : les catégories allant de 1 (le meilleur) à 7 (le plus bas) du potentiel

la tenue d'un inventaire des terres au Canada (ITC). Le défi relevé par l'ITC était phénoménal.

Fournir une étude détaillée du potentiel et de l'utilisation des terres. Cette étude servira de base à une planification intégrée de l'utilisation des ressources et des terres sur cinq ans pour la partie peuplée du Canada, soit environ 2,5 millions de kilomètres carrés. Elle comprend une évaluation intersectorielle du potentiel des terres en vue d'une exploitation agricole, forestière et récréative ainsi que leur potentiel pour la faune (sauvagine et ongulés), pour une utilisation

actuelle des terres, pour la pêche sportive ainsi que pour des projets pilotes de planification de l'utilisation des terres dans chaque province.

Des directives sur la classification biophysique des terres ont été élaborées (Lacare, 1969) afin de fournir un cadre écologique et une base à la classification du potentiel du paysage. En outre, l'utilisation actuelle des terres a été cartographiée afin de servir de point de référence pour la planification régionale et afin de mesurer l'évolution de l'utilisation des terres dans le temps. Cette base de connaissances se résumerait à plus de 30 000 cartes illustrant le potentiel des terres à des échelles qui varient de 1:1 000 000 (destinée à une analyse stratégique et des applications de politiques) à 1:250 000 (afin d'appuyer la planification et l'analyse à l'échelle régionale) et à 1:50 000 (afin d'appuyer la planification intégrée et le zonage de l'utilisation des terres).

## L'ITC est reconnu comme l'apport le plus considérable et le plus significatif à l'utilisation des terres agricoles.



**Inventaire des terres au Canada : intégration accélérée de l'aménagement du paysage en vue d'un développement rural**

En 1963, le gouvernement fédéral en consultation avec le Conseil canadien des ministres des ressources a approuvé

Canada. En 1957, un comité sénatorial sur l'utilisation des terres s'est prononcé en faveur de la réalisation d'un inventaire des terres où celles-ci seraient répertoriées en fonction de leur durabilité pour des utilisations particulières. La Conférence sur les ressources de notre avenir de 1961 a donné un élan supplémentaire. Elle a mis l'accent sur des approches régionales en matière de développement économique et insiste sur l'interdépendance de l'utilisation, du développement et de la conservation des ressources renouvelables (Rees, 1977). Elle a par ailleurs recommandé qu'une enquête agrométéorologique détaillée soit une condition préalable nécessaire pour une gestion future judicieuse des ressources en terres du Canada et une évolution des politiques en matière de développement économique et social dans l'ensemble des régions au Canada. Le gouvernement fédéral a réagi en adoptant la *Loi sur l'aménagement rural et le développement agricole* (ARDA) en juin 1961. Cette Loi fixe un cadre pour les ententes fédérales-provinciales visant une collaboration dans la gestion des ressources rurales et les projets de recherche en vue de favoriser une adaptation de l'utilisation des terres permettant d'améliorer la situation économique et sociale. Le titre de l'ARDA marque un penchant pour une utilisation agricole des terres; toutefois, les programmes et les projets mis en œuvre en vertu de la Loi témoignent d'une stratégie systématique visant la planification intégrée du paysage, une utilisation variée et un développement durable.

## Exploitation non durable des terres, pauvreté rurale et abandon des fermes

Les régions rurales ont continué à payer le prix fort pour l'établissement de populations sur des terres peu productives. Les années 1940, 1950 et 1960 se sont caractérisées par un recours à des technologies scientifiques, une mécanisation accrue et une situation du marché qui ont fait en sorte que seules les grandes exploitations agricoles implantées sur des sols fertiles se sont avérées durables. Une nouvelle vague d'abandon de fermes commence (dans les années 1960, le phénomène se produit à un rythme de 10 000 fermes par an), et la pauvreté fait son apparition dans les régions rurales au

Les enjeux et les solutions horizontales nécessitent la mise en place de bases de connaissances compatibles et intégrées horizontalement.

L'accessibilité par voie d'eau et par voie ferrée était un facteur prépondérant dans le choix des terres à exploiter, et si les colonies s'installaient sur une terre productive à l'agriculture, c'était plus souvent par accident qu'à dessein (Coombs et Thie, 1979). La sécheresse des années 1930 et l'érosion par les vents qui l'ont accompagnée, ont transformé la majeure partie de la prairie à graminées courtes, qui avait été mise en production cétérale pendant la colonie, en zone semi-aride. Cette crise climatique pendant la crise 1929 et l'abandon des fermes qui en a découlé ont entraîné l'adoption de la *Loi sur le rétablissement agricole des Prairies* (ARAP) de 1935. Une enquête agrométéorologique constituait une partie du programme de l'ARAP en vue de fournir la première base de connaissances écologiques sur la conversion de terres cultivées semi-arides en herbages et en pâturages communautaires plus durables sur le plan écologique. Cette initiative a permis une utilisation plus durable en adaptant les pratiques d'exploitation des terres aux caractéristiques inhérentes au climat et au sol.

Source : ".....for lands sake" de David M. Welch, Direction générale des terres, Environnement Canada, 1980, catalogue n° En 72-6/1980E: ISBN 0-660-10544-6.

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Première adaptation à une crise climatique et atténuation de celle-ci

L'établissement de populations au Canada a eu lieu en grande partie au cours des 120 dernières années.

Nos compétences essentielles et notre rôle moteur dans ces principaux domaines, associés à des outils en ligne de gestion du savoir et de participation sociale, ont permis de déclencher la vague suivante d'innovations, notamment des initiatives sociales à large assise comme les principes communs sur le développement durable axés sur les connaissances (PCDDC) et la GIP.

- une participation de tous les secteurs et de plusieurs intervenants;
- des programmes centrés sur les problèmes et les résultats à l'échelle nationale;
- une gestion intégrée des politiques et des programmes d'information géoréférencés;
- des systèmes de surveillance, d'évaluation et d'information géoréférencés;
- la science interdisciplinaire des écosystèmes;

Des conflits généralisés concernant l'exploitation non durable des terres et des ressources ont incité le gouvernement fédéral et les gouvernements provinciaux à déclencher la première vague importante de programmes et de lois qui s'appuient sur des approches que nous appelons désormais des approches de gestion intégrée écosystémiques. Le présent document présente une esquisse de quelques-unes des initiatives présentes et passées de politique horizontale et de programmes ainsi que leur impact, et examine les débouchés futurs. L'ensemble de ces initiatives a recours à une intégration horizontale qui est rendue possible par un mélange des éléments suivants :

dans l'information d'ordre géographique, la surveillance et les systèmes d'aide à la décision.

## Canada – Trouver l'équilibre entre possibilités et limitations

Le Canada est une terre d'extrêmes et de contradictions. Ces caractéristiques ont préparé le terrain à une série d'initiatives uniques et d'innovations phares de classe mondiale dans les sciences, les technologies, la pratique et les politiques en rapport avec l'évaluation des écosystèmes. Deuxième pays en superficie au monde, doté de la plus longue ligne côtière et la zone humide la plus vaste (terres basses de la baie d'Hudson), le Canada dispose à l'heure actuelle de très peu de ressources en terres productives à l'agriculture; son climat et sa géographie physique limitent considérablement la capacité de ses terres à être exploitées pour l'agriculture et la foresterie. Seulement cinq pour cent des dix millions de kilomètres carrés du terri-

toire se prêtent à des cultures agricoles (TTC, 1976) et seulement 25 p. 100 sont recouverts de forêts exploitables sur le plan commercial.

Les problèmes relatifs à la terre, à l'eau et au climat ont conduit le Canada à passer d'une gestion sectorielle à une gestion intégrée des ressources et au développement durable, et en a fait un chef de file

## Les défis du territoire : moteurs de la gestion intégrée du paysage et de l'innovation

Jean Thie  
Président  
Ecoinformatics International Inc.



## Gestion intégrée en vertu de la Loi sur les océans

En 1997, le Canada a promu la Loi sur les océans dans le but de gérer toutes les activités qui visent ou touchent les estuaires, les eaux côtières et les eaux marines en se fondant sur les principes du développement durable, de la gestion intégrée et d'une approche préventive. Un projet pilote définissant des zones étendues de gestion des océans (ZEGO) constitue la base de la planification de la gestion intégrée (GI). Généralement d'une superficie de plusieurs milliers de kilomètres carrés, les ZEGO se caractérisent par la présence de ressources marines vivantes et inertes, une forte diversité biologique et une productivité élevée, et la concurrence entre plusieurs intervenants l'espace et les ressources de l'océan. Il existe actuellement cinq ZEGO, dont les limites

sont définies suivant des considérations écologiques et administratives. Un plan de GI établit des objectifs sociaux, économiques, environnementaux et culturels, ainsi que des stratégies et mesures de gestion durable des ressources dans une ZEGO. Chaque ZEGO est régie par un comité déclinant deux provenant de ministères fédéraux, provinciaux et territoriaux et bénéficiant de l'appui d'un secrétariat de coordination, de comités consultatifs constitués de parties prenantes et de groupes de travail constitués d'experts. Ces travaux sont facilités par de nouveaux outils permettant de comprendre l'interaction des activités et des effets cumulatifs, comme le Cadre d'analyse du risque océanique intégré et des modèles de séquences des effets.

Une description plus détaillée de cette initiative se trouve sur le site du Projet de recherche sur les politiques <www.pfp-ppl.gc.ca>

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les approches adaptées au milieu prennent de nombreuses formes de collaboration, depuis les coalitions d'intérêts lâches et temporaires jusqu'à des encadrements complexes.

- Il faut adopter une approche souple et adaptative de la gouvernance, permettant aux différents intervenants d'assumer les rôles qui leur conviennent le mieux, étant donné les objectifs visés, sans compromettre la capacité des décideurs de prendre les décisions éventuellement nécessaires. Le gouvernement fédéral, par exemple pourrait encadrer la gestion de l'information sans nécessairement prendre part à toutes les décisions résultant de l'utilisation de cette information.
- On manque d'expérience pour guider une multiplicité de ministères à déterminer conjointement les objectifs regroupant plusieurs mandats ou domaines de politique aux fins du développement durable.
- Un enseignement tiré de la planification spatiale marine (PSM) est que les approches adaptées au milieu ne remplacent pas l'analyse sectorielle, mais constituent un moyen pour mieux intégrer ces approches et permettre la perspective plus holistique nécessaire à la mise en oeuvre des principes de DD. Comme l'ont indiqué Ehler et Douvrou (2009, p. 22) : la PSM [traduction] « vise à conseiller tout un éventail de décideurs responsables de certains secteurs et de certaines activités ou préoccupations de manière à leur donner les moyens de prendre des décisions en toute confiance et complé- plus globale, intégrée et complé- mentaire ». La nouvelle *Loi fédérale sur le développement durable* peut aussi contribuer fortement à une meilleure intégration.

- Les systèmes de gouvernance doivent être capables de s'adapter. Ils doivent rester ouverts pour permettre l'intégration de nouvelles connaissances et expériences (voir Batchler et Layzer ce numéro, p. 54/p. 59). Pour favoriser l'apprentissage, une attention particulière doit être mise à mesurer les résultats.

## Conclusion - Considérations à l'intention du gouvernement fédéral

Au niveau le plus fondamental, les approches adaptées au milieu peuvent offrir des occasions de voir comment orienter, à l'aide des principes de DD, toute une série d'interventions fédérales et les adapter à des situations précises en s'assurant de faire des liens aux échelles appropriées. La récente *Loi fédérale sur le développement durable* pourrait donner l'élan à l'examen de cette possibilité.

L'apparence d'incohérence sont nécessaires dans un système où les tensions fédérales-provinciales sont l'expression de la nécessité démocratique d'instaurer un équilibre des pouvoirs au sein d'un régime fédéral. L'envers de la médaille est que les approches adaptées au milieu pourraient permettre, le cas échéant, d'uti les débats autour d'objectifs comme les buts du DD ou la cohérence réglementaire.

Les approches adaptées au milieu peuvent permettre au gouvernement fédéral de mieux harmoniser les orientations de ses politiques et programmes, souvent élaborées de façon centralisée, et l'expérience du personnel régional qui a des contacts directs avec les citoyens ou les organismes locaux/régionaux. Elles peuvent favoriser le développement d'une culture de collaboration de plus en plus nécessaire dans un monde où la technologie de l'information la rendent essentielle en plus de la faciliter, et où les valeurs évoluent. Elles peuvent aussi faciliter la compréhension et la résolution de problèmes comme les changements climatiques et la croissance démographique mondiale, dont les principaux impacts seront ressentis à l'échelle locale (voir l'article de Layzer, ce numéro, p. 59).

Parallèlement, les approches adaptées au milieu peuvent donner aux gouvernements une meilleure capacité d'adaptation à l'implication croissante des organisations citoyennes, qui se sont multipliées dans le monde ces dernières décennies, et contribuer à mieux percevoir où intervenir. Sans doute verra-t-on se maintenir l'implication croissante des citoyens dans des activités de gestion traditionnellement perçues comme relevant des gouvernements. Bien sûr, cela complique les relations entre les gouvernements et les citoyens en estompant la distinction entre les gouvernants et les gouvernés, en rendant plus



très précises aiderait beaucoup la prise de décision intégrée à diverses échelles spatiales.

Les méthodologies élaborées grâce à la recherche transdisciplinaire peuvent permettre de soutenir la co-création de savoir, provenant non seulement de différentes disciplines mais aussi de différentes sphères d'activité (p. ex., le gouvernement, les ONG et les universités), en soutenant la disponibilité des données et leur accessibilité à l'échelle appropriée. Waldick (ce numéro, p. 73) propose un certain nombre de suggestions sur la façon de renforcer nos capacités de le faire.

• *Les processus de planification*, comme l'expliquent Bizikova et Waldick, Sadler et Noble, ce numéro (p. 81/p. 95/p. 106) (p. ex., les évaluations environnementales stratégiques régionales), peuvent être spécialement conçus pour favoriser l'intégration des dimensions sociales et économiques dans la conception des politiques et la planification. Nous disposons de l'expérience nécessaire pour permettre la mise en application de ce type d'approches et la technologie peut contribuer à améliorer et développer la capacité à ce point de vue.

• *Mécanismes destinés à promouvoir la collaboration entre ministères et organismes gouvernementaux*. Comme le montre Bourgault (dans ce numéro, p. 88), il existe énormément d'initiatives horizontales dont on peut tirer des enseignements (voir aussi Federal Family, 2009). La difficulté consiste à choisir celles qui conviennent aux approches adaptées au milieu sans oublier la nécessité d'assurer la cohérence à différents niveaux de prise de décision, de la conception à la mise en application des politiques. Plusieurs

rapports portant sur le renouvellement de la fonction publique ont aussi souligné le fait que la fonction publique de l'avenir devra bâtir une culture de collaboration, ce qui exige de stimuler cette collaboration (voir Federal Family, 2009).

• *Mécanismes destinés à favoriser la collaboration intergouvernementale*. Selon l'expérience accumulée, ce type de collaboration entre bureaucraties provinciales et fédérales doit le prendre – peut être assumé par différents paliers de gouvernement selon les mandats constitutionnels ou d'autres considérations. En ce qui a trait à l'eau, par exemple, la planification des bassins versants peut être assurée par les provinces tandis qu'il peut être nécessaire pour le gouvernement fédéral d'encadrer la planification internationale ou intergouvernementale, de jouer le rôle d'organisme de réglementation, de facilitateur, de catalyseur ou de fournisseur de savoir scientifique. De façon plus générale, tous les gouvernements peuvent jouer un certain nombre de rôles et assumer diverses fonctions selon les problèmes abordés.

• *Partenariats avec d'autres intervenants sociaux, dont le secteur privé et d'autres organisations non gouvernementales*. Tous les paliers de gouvernement du Canada ont accumulé une expérience considérable des partenariats en faisant appel à toutes sortes de pratiques et méthodes. La mise en commun de ces expériences et des enseignements tirés sur le partage des responsabilités et le maintien de la

reddition de comptes favorisera le recours plus systématique à ces modalités de fonctionnement.

• *Encadrements réglementaires*. Les approches adaptées au milieu offrent une perspective unique pour examiner le point de rencontre des cadres politiques et réglementaires et leurs incidences sur les gens qui vivent dans divers milieux et dans les écosystèmes voisins.

• Comme le souligne Layzer (ce numéro, p. 59), la réglementation, plus particulièrement environnementale, peut contribuer fortement à assurer que les initiatives collaboratives adaptées au milieu atteignent leurs objectifs plutôt que de maintenir un statu quo non viable.

• Dans certains cas, les approches de planification adaptées au milieu peuvent aussi atténuer les fardeaux réglementaires en permettant de tenir compte ex ante des risques liés aux propositions de développement, soit pour les populations ou des écosystèmes critiques. En déterminant ces risques, au début du cycle de planification on peut aménager ultérieurement les conflits sociaux comme ceux auxquels donne actuellement lieu l'application des règlements en matière d'évaluation environnementale (voir une description de l'évaluation environnementale stratégique régionale dans l'article de Noble, ce numéro, p. 106).

• *Systèmes de gouvernance conçus pour accomplir des tâches très diverses*. Dans son sens de clarification des rôles, des responsabilités et des obligations redactionnelles, la gouvernance s'applique à tous les éléments constitutifs maintenant apparaitre clairement que

Un élément sous-jacent à la plupart des difficultés des approches adaptées au milieu est le besoin d'une meilleure collaboration entre toute une gamme d'intervenants, surtout au sein des administrations publiques. Il reste d'énormes obstacles à franchir au sein de grands organismes axés sur un mandat comme les ministères fédéraux.

Au cours d'une activité récente mise sur pied par le Forum des politiques publiques et le Projet de recherche sur les politiques, on a examiné certains obstacles à la collaboration. Parmi ceux-ci, les experts ont relevé la culture de la fonction publique, redoutant trop souvent les risques et étouffant l'élaboration et la prestation de politiques novatrices et souples. Les participants ont en outre estimé que le gouvernement fédéral exerce souvent une gestion des-  
cendant de ses partenaires, qui est l'antithèse de l'esprit de collaboration non hiérarchique.

« Certains ont également exprimé leur crainte que les institutions publiques fondées sur le système britannique se prêtent mal à la collaboration horizontale, compte tenu de la nature verticale de leur autorité et de leur responsabilité. En outre, l'examen de plus en plus minutieux des fonds publics par les médias et le public et le régime de responsabilisation qui se dessine font obstacle à une plus grande collaboration. » (Gravelle et coll., 2008, p. 5-6, voir aussi Federal Family, 2009).

Le concept et la pratique du partage de responsabilité doivent être développés d'avantage.

### Les partenariats et la

#### décentralisation

Il arrive que l'on perçoive les approches adaptées au milieu comme une façon de décentraliser la prise de décision et de promouvoir des formes de démocratie plus inclusives / délibératives. Cela risque de créer des ambiguïtés lors de la conception des approches adaptées au milieu, dans la mesure où les citoyens prenant part à ces processus s'attendent à des changements dans le mode de prise de décision, surtout si l'on ne répond pas à ces attentes. Les approches adaptées au milieu peuvent promouvoir une approche plus éclairée de la prise de décisions en matière de développement durable, indépendamment du mode de prise de décision. Mais il est probable que les tensions entre les formes de gouvernance et de prise de décisions locales et les formes plus centralisées demeureront un aspect inhérent aux approches adaptées au milieu.

### Les éléments constitutifs des approches adaptées au milieu

S'il reste beaucoup de choses à apprendre sur les approches adaptées au milieu et les résultats qu'elles donnent, nous disposons déjà de bons matériaux. Sans doute les similitudes des approches adaptées au milieu entre les différents secteurs d'activité sont-elles plus importantes que leurs différences, ce qui nous permet d'établir un ensemble de fonctions et de mécanismes de base pour les soutenir,

de faciliter l'apprentissage et l'élaboration de politiques et possiblement permettre le genre d'intégration nécessaire au DD. Nous avons cerné les éléments constitutifs suivants :

- *Critères permettant d'aborder les problèmes par l'entremise du milieu.* L'approche adaptée au milieu n'est sans doute pas nécessaire pour aborder toutes les questions de politiques. Certains critères peuvent servir à orienter la conception de politiques et la planification de façon à mieux voir à quel moment le recours aux approches adaptées au milieu est plus approprié. Si les avantages sociaux des familles, par exemple, peuvent être acheminés aux familles quel que soit leur milieu, les programmes ciblant les familles pauvres pourraient tenir compte des milieux dans lesquels ils vivent.
- *Relier les échelles.* Un défi connexe est celui de saisir les interrelations entre les échelles et d'en tenir compte. Comme Charles et coll. le soutiennent (ce numéro, p. 26), la gestion des océans, qui se produit à très grande échelle, peut tirer profit de l'application des communautés quand leur survie dépend des ressources marines.
- *Production de savoir, outils et systèmes de soutien de l'information permettant l'analyse à n'importe quelle échelle spatiale, et outils permettant de visualiser l'avenir.* Cela comprend en particulier les systèmes géoréférencés d'information, d'analyse et de soutien à la décision. Comme Thie le souligne (ce numéro, p. 16), le Canada est un chef de file dans ce domaine et la technologie permettant l'application à grande échelle de ces outils à de nombreux domaines existe. Un meilleur partage de bases de données spatiales souvent constituées à des fins



surveillances/données différents en plus de la dynamique créée entre chaque organisation gouvernementale et toute une série d'intervenants.

Au-delà des aspects géographiques, les provinces et territoires ont le pouvoir de prendre beaucoup de décisions relatives à la gestion des ressources ou aux politiques sociales. Très souvent, les ministères fédéraux ont eux aussi des mandats forts et d'importantes responsabilités liées à certains aspects de la gestion des ressources, par exemple la protection de l'habitat du poisson ou le contrôle de la pollution, l'administration des aspects internationaux de la gestion des ressources, ou des décisions en matière de politiques socio-économiques dont les effets les plus directs sont ressentis à l'échelle du milieu (par exemple, l'immigration, le logement, les investissements dans les infrastructures, les sans-abri ou la formation de la main-d'œuvre). Le problème peut consister à déterminer et définir des interventions complémentaires de plusieurs instances.

Avec le temps sont élaborés par ces instances différents règlements et différentes politiques, parfois avec des objectifs contradictoires. Mise à part les cadres soutenant les approches adaptées au milieu, dont les objectifs peuvent différer (voir l'article d'Oborne, ce numéro, p. 42), on observe parfois des contradictions d'ordre plus général résultant de la superposition historique d'orientations de beaucoup de pays, les politiques et règlements relatifs à l'eau présentent des contradictions notoires, le soutien offert à certains secteurs risquant d'entraîner une augmentation de la consommation alors que d'autres politiques visent simultanément et dans le même milieu à conserver l'eau.

Enfin, l'expérience acquise dans de nombreux domaines démontre que les résultats de la planification adaptée au

En général, il manque aussi de forums ou de mécanismes de mise en commun des meilleures pratiques (voir l'article de

**Le savoir et la capacité au profit des initiatives adaptées au milieu**

Le manque d'information est souvent un des obstacles à la prise de bonnes décisions. Au Canada, on observe souvent de graves lacunes dans le savoir disponible à l'échelle désirée, ce qui empêche une bonne analyse (voir l'article de Cook, ce numéro, p. 35). De surcroît, dans des domaines spécialisés, on a tendance à aborder les problèmes en se fondant sur ses propres hypothèses et perceptions sur les connaissances nécessaires, ce qui complique l'intégration entre les secteurs d'activité. Les praticiens apprennent à composer avec ces restrictions et élaborent des outils et des approches, comme la création de scénarios et la visualisation de l'avenir, pour soutenir la planification et la prise de décision (voir l'article de Bizikova et Walidick, ce numéro, p. 81). Il reste cependant beaucoup à faire pour renforcer la capacité de résoudre des problèmes horizontaux complexes.

milieu, lorsqu'on a mis en place de tels processus, n'éclairaient pas nécessairement les plus grands défis des concepteurs d'approches adaptées au milieu consistent peut-être à s'assurer que l'information ainsi recueillie est mise à la disposition des décideurs et qu'elle leur est utile.

## À l'avenir, il faudra examiner sérieusement comment les nouvelles méthodes de création de savoir, faisant appel à des progrès technologiques comme l'information géographique, de même que des modes collaboratifs d'enquête et d'élaboration de politiques, peuvent soutenir les politiques adaptées au milieu à long terme.

Walidick ce numéro, p. 73). L'information relative à des approches adaptées au milieu qui ont donné de bons (et de mauvais) résultats peut avoir une valeur inestimable pour des initiatives semblables – surtout si l'on pense que ces pratiques sont encore assez nouvelles. Les enseignements tirés des initiatives les plus avancées pourraient donner aux plus nouvelles à la fois l'orientation et l'élan nécessaires à leur élaboration.

Les interventions adaptées au milieu ne sont pas toujours planifiées à long terme. Comme elles reposent souvent sur la participation d'intervenants non étatiques, dont beaucoup d'organisations non gouvernementales, les changements dans les orientations stratégiques et le niveau de financement peuvent avoir de graves répercussions sur la capacité des organisations du milieu à maintenir un degré d'activité adéquat (voir, par exemple, l'article de Robins dans ce numéro, p. 64). À l'avenir, il faudra examiner sérieusement comment les nouvelles méthodes de création du savoir, faisant appel à des progrès technologiques comme l'information géographique et le Web 2.0, de même que des modes collaboratifs d'enquête et d'élaboration de politiques, peuvent soutenir les politiques adaptées au milieu à long terme.

Li'intégration peut renvoyer à la nécessité de mieux coordonner les activités des différentes fonctions d'une organisation, p. ex., au sein de l'administration.

**La terminologie**

Les notions d' « intégration » et de « milieu » ou « territoire » peuvent revêtir un sens différent selon le contexte. Les milieux sont, entre autres, assimilés aux quartiers, aux collectivités, aux municipalités, à une forêt ou à un bassin versant. La signification du milieu varie selon les problèmes à l'étude et la diffusion consiste à reconnaître l'importance de tenir compte des liens entre ces différentes échelles. Par exemple, les gens qui vivent et travaillent dans des collectivités dépendent de leurs bassins versants et ont également un impact sur ces der-

## La terminologie

Un certain nombre de ministères fédéraux prennent une part directe à des approches adaptées au milieu depuis de nombreuses années. À l'exception notable de la gestion intégrée des océans, qui est prescrite par la loi, ces efforts ne sont pas nécessairement connus pour durer longtemps. Et, en général, ces approches sont conçues afin d'affronter qu'un seul enjeu de politique à la fois. Les éléments probants dont nous disposons, tant à la suite d'initiatives fédérales que de celles d'autres instances, laissent entrevoir un certain nombre d'obstacles importants.

Les obstacles à l'élaboration et à la mise en œuvre d'approches intégrées adaptées au milieu

domaines d'action et secteurs de la société – les gouvernements et les parties prenantes étant souvent perçus comme des partenaires partageant les responsabilités et donc l'imputabilité dans les approches adaptées au milieu – à la résolution des questions de compétence. Nous examinerons un certain nombre de ces obstacles dans la section qui suit.

féderale, les finances, l'élaboration des politiques, la planification des programmes, etc. Dans le contexte des approches de la planification adaptées au milieu, on parle simultanément d'un certain nombre de besoins, ce qui vient augmenter la confusion : le besoin de mieux coordonner l'entreprise organisationnelle gouvernementales dans différentes zones de compétence ou dans une même zone de compétence; différentes disciplines; différentes sources et différents types d'information; des intérêts/secrécus différents; ou différentes perceptions, attitudes et valeurs (Slocombe et Hanna, 2007). Si toutes ces formes d'intégration sont inter-reliées, les difficultés propres à chacune peuvent déboucher sur la création d'approches différentes. Ainsi, des solutions conçues pour répondre au besoin d'intégration de plusieurs organisations gouvernementales peuvent différer des solutions permettant de trouver des compromis entre les valeurs. Cela dit, on s'entend généralement sur le fait qu'il faut trouver des approches plus collaboratives pour régler les problèmes d'intégration.

sont très semblables.

est rare que les paysages, les bassins versants, le littoral des océans ou même les régions municipales envisagées dans un sens large (p. ex. la Région de la capitale nationale) correspondent précisément aux limites des zones de compétences, de sorte qu'il est particulièrement difficile d'élaborer et de mettre en œuvre des stratégies intégrées adaptées au milieu. Si les enjeux à l'étude traversent des frontières provinciales et internationales, la complexité est encore accrue en raison de cadres réglementaires et de régimes de

La diversité des problèmes, des intervenants et des paysages

On considère souvent que la souplesse d'apporter des solutions sur mesure aux problèmes étudiés est l'un des grands avantages offerts par les initiatives adaptées au milieu. Très souvent, cette souplesse peut aussi poser problème puisque chaque région ou collectivité peut avoir besoin d'éléments de solution uniques et adaptés sur mesure, dont la réussite peut dépendre fortement de la dynamique créée entre les intervenants clés et de l'ampleur des problèmes à résoudre. Autrement dit, il n'existe pas de solution ni d'approche évidente; ce sont les personnes impliquées qui doivent les créer et, souvent, cela suppose d'harmoniser et d'intégrer une myriade d'organismes sans liens administratifs entre eux pour constituer des alliances entre ministères de tous les paliers, groupes d'utilisateurs, secteurs industriels, citoyens, universitaires et autres intervenants. Une telle diversité d'intérêts parfois conflictuels exige que l'on trouve un dénominateur commun pour mettre en place des processus constructifs. Mais il faut aussi parfois remettre en cause la coalition d'intérêts locaux pour favoriser des résultats vraiment bénéfiques pour la population (voir, par exemple, l'article de Berdegué et coll., et Layzer ce numéro, p. 69/p. 59).

## Les questions de compétences et la cohérence réglementaire



- 3 Voir aussi Banque mondiale, 2009, pour une analyse récente de l'importance du milieu dans un contexte de développement. Berdegue et coll., dans ce numéro (p. 69), examinent une étude de cas particulier.
- 4 Robins (2007) a repéré près d'une centaine de structures formelles de gouvernance mises en place par les provinces afin de gérer l'eau. Et cela ne comprend pas les modalités créées par le gouvernement fédéral que ce soit seul ou en collaboration avec les provinces ou les États-Unis, ni celles qui ont vu le jour dans d'autres domaines d'action. Voir Osborne, dans ce numéro (p. 42), pour se faire une idée de la gamme des cadres d'action provinciaux.
- 5 Organisé par le PRR, cet atelier a rassemblé des praticiens des approches adaptées au milieu provenant de toute une série de ministères fédéraux en vue de mieux comprendre les défis qu'elles présentent et les occasions qu'elles offrent.

ensemble à la bonne échelle spatiale. De façon plus générale, comme Crane et Manville (juillet 2008, p. 3) le soulignent : [traduction] « une deuxième grande catégorie de défis au développement communautaire est caractérisée par des lacunes dans les échecs spatiaux des marchés où, certains milieux souffrant de sous-investissement et de la fourniture insuffisante de biens publics spatiaux, dont la sécurité, l'éducation, le transport, l'identité communautaire, les réseaux politiques et les externalités spatiales de marchés du logement et du travail géographique relèvent ».

Bachter, dans ce numéro (p. 54), souligne lui aussi les fondements théoriques du regain d'importance accordée au milieu dans l'analyse économique ou la nouvelle économie géographique : [traduction] « notamment les rapports entre les coûts de transport/commerce et la concentration géographique; les théories de la croissance endogène, notamment celles portant sur les sources de l'innovation et sur sa distribution géographique; et les théories institutionnelles qui explorent les facteurs d'adaptabilité et d'innovation des économies ».

retrouve :

Les praticiens des approches adaptées au milieu au gouvernement fédéral affirment que, parmi les avantages de l'intégration plus poussée des activités au sein des approches adaptées au milieu, on trouve relativement peu de données probantes sur les résultats et avantages des approches adaptées au milieu au Canada et ailleurs, ainsi que sur les conditions qui en amélioreraient le fonctionnement. Très souvent, l'accent est mis sur les processus et la qualité de la vie en démocratie et moins sur l'évaluation des résultats réels des approches. Voir par exemple Leach (2006) ou Layzer (ce numéro, p. 59) pour connaître la perspective de la politique de l'environnement.

## Les avantages des approches adaptées au milieu

2009). sources dans tout le Canada (Neave, et des questions d'utilisation des ressources pour régler des problèmes environnementaux et des questions d'intendance de ce genre pour groupes d'intendance des milieux de on a vu apparaître des milliers de Selon un rapport publié dernièrement, trouver des solutions à leurs problèmes, régionale s'attachent de plus en plus à sentis à l'échelle communautaire ou citoyennes répondant à des besoins res-

Bien qu'on estime que les approches adaptées au milieu renforcent l'intégration, et par extension le développement durable, de nombreux obstacles se dressent devant leur arrivée à maturité, qui vont d'une culture de spécialisation à la difficulté de la collaboration entre

- personnaliser les approches nationales selon les contextes.
- assurer une plus grande cohérence entre les cadres législatifs. L'attention accordée au milieu pourrait permettre de tenir compte des effets cumulatifs de cadres réglementaires différents et d'éviter ainsi autant les doubles emplois que l'incohérence;
- éviter les conflits potentiels dans les domaines de compétences partagées, en éclaircissant les attributions, en stimulant l'acceptation à tous les niveaux, ainsi que la motivation dans l'ensemble de l'administration fédérale;
- améliorer la planification et la prestation des services, réduire les doubles emplois et augmenter l'efficacité;
- mettre le gouvernement fédéral au courant des réalités sur le terrain;
- remplir à la fois les mandats ministériels particuliers et un mandat collectif de développement durable tel que défini par la nouvelle *Loi fédérale sur le développement durable*;
- donner les réalités contemporaines d'un pouvoir diffus et l'évolution des notions de milieux;

notions de milieux;

Dans de nombreuses régions du monde, notamment dans l'Union européenne et aux États-Unis, on s'intéresse de plus en plus aux approches adaptées au milieu, donnant ainsi l'élan nécessaire à une étude plus approfondie des expériences actuelles et passées dans différentes régions et circonstances. D'autres facteurs comme la technologie, y compris des outils comme les SIG, le réseautage et un accès accru aux données, permettent de mieux comprendre et réagir à des enjeux actuels et futurs sur une diversité d'échelles géographiques. En

numéro p. 59).

systèmes (voir l'article de Layzer ce compréhension des milieux et des éco-spatiales pertinentes et approfondi la enjeux socio-économiques à des échelles processus permettant d'analyser des milieux l'élaboration de nouveaux outils et des enjeux de politique complexes, stipie, renforcé la capacité locale à aborder nombre d'avantages. Elles ont, par exemple, cependant débouché sur un certain adaptées au milieu ont treinte. Les approches mentales est aussi res-politiques environne-économiques dans les considérations sociales et que l'intégration de mais il faut reconnaître dans la plupart des pays domaines a été difficile nementales dans d'autres considérations environ-que l'intégration des les intégrer. Chacun sait domaines ni chercher à

répondre à des défis de DD, il est encore dans des domaines de politiques précis mises en place pour régler des problèmes approches adaptées au milieu ont été résultats souhaités. En général, les trop tôt pour dire si elles donnent les

## Un des grands enseignements tirés jusqu'à présent pour le Canada est que l'intégration, dans son sens de DD, est ponctuelle plutôt que systématique.

**Contexte**

On a assisté à l'apparition d'un certain nombre de mouvements parallèles dans une série de domaines de politique. Dans un effort visant les questions

numéro sur le site Web du RPP.

un document qui accompagne ce pourra trouver plus d'information dans majorité fédérales, sur lesquelles on tions d'un certain nombre d'initiatives à Entre les articles sont insérés les descrip-miques, sociaux et environnementaux. dans la poursuite d'objectifs écono-de programmes stimulant la durabilité mise en œuvre de plans, de politiques et faire un instrument d'élaboration et de approches adaptées au milieu et d'en surmonter les obstacles récurrents aux met d'avancer qu'il est possible de tiales de ces approches, ce qui nous per-constitués ou les exigences fondamen-tuel servant à déterminer les éléments Nous présentons aussi un cadre concep-que elles offrent au gouvernement fédéral. avantages éventuels et des occasions rencontrer, de leurs des difficultés qu'elles au milieu, notamment aux approches adaptées réalistiques communes men de certaines caractéristiques de *Horizons*, voici un examen de certains carac-présentes dans ce numéro Sur la base des articles

tales? ».

miatique et environnementale de la durabilité écono-proactive de promotion à élaborer une « stratégie urbaine et la sécurité alimentaire et vise sance démographique, l'expansion leurs de changement comme la crois-une communication intitulée « *Developing Effective Place-Based Policies for the FY 2011 Budget* » qui examine des fac-

Dans les politiques sociales et la planification des infrastructures, on attache de plus en plus d'importance au « milieu », souvent la communauté (voir l'article de Cook ce numéro p. 35, ainsi que Bradford, 2009), parfois la municipalité (voir l'article d'Harcourt ce numéro p. 50). Comme le laisse entendre Cook ce numéro (p. 35) : [traduction], « On s'inquiète [...] de la façon dont précarité et la concentration spatiale semblent se renforcer réciproquement ». Une plus grande attention accordée à ces milieux pourrait donc permettre de démanteler un échec de problèmes inter-relés. De la santé publique à l'immigration et à la lutte contre la pauvreté, un certain nombre de difficultés peuvent être plus facilement surmontées si on les examine

soient utilisées de façon viable.

un intérêt direct à ce que les ressources venant appropriées, dont plusieurs ont inter-relations, et de rassembler les inter-manière à mieux tenir compte de ces les problèmes sont abordés. Ceci de tiques et, d'autre part, l'échelle à laquelle planification et d'élaboration de poli-On a réclame une plus grande harmoni-propriétés biophysiques des écosystèmes. des ressources sur les communautés et les effets (positifs et négatifs) de l'utilisation besoin de comprendre les multiples digmes, étant de plus en plus axée sur le aussi, connu un changement de para-La gestion des ressources naturelles a, elle à la prise de décision.

environnementales, le rapport Brundtland de 1987, qui a popularisé le concept de DD, illustrait le besoin de prendre en considération simultanément, ou de façon intégrée, des valeurs importantes comme la promotion du bien-être humain, la préservation des écosystèmes, l'équité inter- et intra-générationnelle et la participation du public



Introduction

Les approches de la planification, de l'élaboration des politiques ou de la prestation des programmes adaptées au milieu auxquelles nous référons aussi par le concept d'approches territoriales intégrées représentent un moyen d'aborder en collaboration des questions socio-économiques complexes grâce à des interventions définies à une échelle géographique donnée. Elles vont de la gestion de vastes zones océaniques, de bassins versants et autres écosystèmes à des programmes destinés à résoudre des problèmes de pauvreté, de santé publique, d'immigration et de sans-abri. Depuis longtemps, elles font partie de la trousse à outils de plusieurs ministères fédéraux et provinciaux au Canada et dans d'autres pays. Les échelles auxquelles ces approches sont élaborées

# Des approches intégrées territoriales pour favoriser le développement durable

varient selon les problèmes abordés. Elles ont été amorcées par les gouvernements, des organisations citoyennes ou le secteur privé. Certains reposent sur des processus officiels de gouvernance et de prise de décisions tandis que d'autres sont moins structurées.

Le présent numéro d'*Horizons* vise à donner une idée de la diversité des approches adaptées au milieu telles qu'on les applique à différents domaines de politique et fait ressortir certains des enseignements tirés d'un point de vue de DD. Il met aussi en évidence les outils et processus émergents facilitant un point de vue intégré de DD sur les approches adaptées au milieu. Un des grands enseignements jusqu'à présent pour le Canada est que l'intégration, dans son sens de DD, est ponctuelle plutôt que systématique. Si certaines de ces approches ont été pensées pour

1 Par principes de développement durable, nous entendons la prise en considération d'enjeux économiques, sociaux et environnementaux dans la prise de décision dans une perspective à long terme. Pour de plus amples explications sur le sens du DD, voir Meadodowcroft et Bregha (2009).

La disponibilité des données géospatiales et du Web 2.0 crée un potentiel sans précédent pour l'élaboration et l'échange de données et, de façon plus générale, des connaissances. De tels changements estompent la limite entre les organisations gouvernementales et non gouvernementales; ils transforment également la façon de créer et de partager les connaissances en révélant le potentiel d'une meilleure collaboration. En outre, le développement de logiciels facilitant la visualisation des données et l'élaboration de scénarios peuvent modifier la façon de procéder à l'analyse des politiques, en simplifiant l'intégration des politiques entre diverses organisations gouvernementales.

Les articles du présent numéro d'*Horizons* examinent quelques-unes des questions soulevées ci-dessus et offrent des réponses possibles. Un document d'accompagnement sur le site Web du RPD présente des exemples d'initiativess, à majorité fédérales, adaptées au milieu. Cette travail contribuera aux efforts visant à maintenir l'intensité du rôle du gouvernement national dans un monde de politiques plus dynamique et complexe. ●

En travaillant en collaboration avec des partenaires, l'organisme facilite le travail de conservation à l'échelle locale tout en augmentant la sensibilisation et la coopération à l'échelle de l'écorégion. Alors que de plus en plus de gens comprennent la responsabilité de protéger l'écorégion, *Deux Pays, Une Forêt* s'efforce de vaincre les difficultés liées aux zones de compétences et aux différences culturelles qui font obstacles à la planification transfrontalière de la conservation du paysage. Un groupe de travail scientifique a été créé afin d'établir les fondements scientifiques de leurs cinq liens prioritaires du paysage. Ce groupe a aussi créé un outil interactif de cartographie en ligne renforçant plus de 30 nouveaux ensembles de données environnementales et couches de base afin d'aider les gestionnaires des terres et les praticiens de la conservation à assurer la conservation et l'aménagement du territoire dans l'écorégion.

## Deux Pays, Une Forêt

*Deux Pays, Une Forêt* (2C1Forest) est un organisme sans but lucratif canado-américain créé par des chercheurs, des agents de conservation de l'environnement et des organismes de financement, qui ont répondu au besoin de protéger l'écorégion des Appalaches nordiques et de l'Acadie. Les participants partagent une compréhension fondée sur la science des menaces pesant sur les ressources naturelles de la région et un engagement envers la conservation à l'échelle du paysage. Cette approche valorise la science de la conservation et l'écologie du paysage en plus de considérations économiques et sociales dans la planification à l'échelle d'une municipalité ou d'une région. L'objectif de *Deux Pays, Une Forêt* est de favoriser la cohésion de l'écorégion par un système de secteurs protégés reliés par des corridors fauniques essentiels pour la santé à long terme de l'écorégion tout en soutenant des communautés locales dynamiques tant sur le plan économique que culturel.

Une description plus détaillée de cette initiative se trouve sur le site du Projet de recherche sur les politiques <www.prp-pri.gc.ca>



Le changement technologique favorise également cette tendance. La limite des données a été l'une des contraintes les plus importantes dans la création de politiques à l'échelle du « milieu ». La combinaison de la télédétection, de la

interrelation, économiques et leur

environnementaux, les problèmes sociaux, leur façon d'aborder

peut déterminer la manière dont ils font partie

vivent et dans les écosystèmes dont ils font partie

collectivités urbaines et rurales dans lesquelles ils

ont été défini par les relations gouvernementales. Le con-

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## Nous redécouvrons que la compétitivité économique, le bien-être social et la résilience des écosystèmes dépendent en grande partie du comportement collectif dans des « milieux » particuliers.

d'intendance dans les bassins versants, par des citoyens désireux de s'engager dans les milieux qui sont importants pour eux et de trouver des solutions qui semblent appropriées. Les initiatives adaptées au milieu sont souvent menées par le secteur privé ainsi que par tous les paliers de gouvernement.

Ces dernières années, les gouvernements provinciaux canadiens ont créé des cadres officiels précisant les structures de gouvernance et les rôles de ces nouveaux partenariats, notamment pour l'aménagement du territoire et des bassins hydrologiques. En règle générale, ces cadres ne définissent pas de rôle pour le gouvernement fédéral, même si les décisions prises peuvent avoir un effet sur ses responsabilités. Il existe de nombreux exemples d'initiatives adaptées au milieu. Cependant on comprend de plus en plus qu'une intégration et une collaboration accrues entre les ministères, avec les autres paliers de gouvernement et partenariats sont des conditions de politiques nécessaires pour donner de meilleurs résultats sur les plans économique, social et environnemental.

Le Canada n'est pas le seul pays où les approches adaptées aux milieux s'intensifient ou à se poser d'importantes questions sur les meilleures façons de faire. Les États-Unis, l'Europe, l'Australie et d'autres pays élaborent des cadres stratégiques en vue de guider le développement d'initiatives adaptées au milieu. Ces approches sont souvent amorcées par des organismes communautaires dans les quartiers ou par des groupes

- À quel moment les organismes fédéraux doivent-ils s'impliquer? Quels critères doivent guider ces décisions? Comment les ministères fédéraux devraient-ils coordonner les actions issues de mandats potentiellement divergents dans un même « milieu »? Quels sont les mécanismes d'inputabilité relatifs aux partenariats établis entre les organisations et les paliers de gouvernement?
- Quels sont les instruments disponibles au gouvernement fédéral pour les approches adaptées au milieu?
- Que faut-il pour que le gouvernement fédéral soit un rassembleur efficace pour les questions relatives au milieu?
- Quelles sont ses possibilités et ses responsabilités en tant que générateur et fournisseur de données nécessaires aux politiques adaptées au milieu?
- Quelles dispositions devraient être en place lorsque le lieu a une dimension autochtone?
- Quels outils et processus aideront à faire en sorte que les approches adaptées au milieu répondent mieux à des questions complexes et favorisent le développement durable?

# Intégrer le « milieu » – L'examen du rôle du gouvernement fédéral dans les approches adaptées au milieu

Ian Shugart

Sous-ministre

Environnement Canada

Thomas Townsend

Directeur exécutif

Projet de recherche sur les politiques

La superficie du Canada, son paysage et la diversité de sa population nous définissent en tant que Canadiens. Mais à l'intérieur de notre vaste espace géographique, les différences d'aspirations des habitants d'un endroit à l'autre, les enjeux locaux et les espaces définis du point de vue écologique prennent de plus en plus d'importance. De nouveaux périmètres transcendant les limites territoriales traditionnelles posent problème aux autorités. Cette diversité de « milieux » pose un réel défi au fonctionnement d'un gouvernement national.

À travers le pays, des initiatives ont été lancées à un rythme accéléré à l'échelle communautaire, municipale,

du paysage ou des bassins versants. Ces approches « adaptées au milieu » sont élaborées afin de répondre aux problèmes souvent qualifiés d'insurmontables : des difficultés persistantes en matière de politiques socioéconomiques et environnementales nécessitent un degré élevé de collaboration entre les gouvernements et avec les autres acteurs. Nous redécouvrons que la compétitivité économique, le bien-être social et la résilience des écosystèmes dépendent en grande partie du comportement collectif dans des « milieux » particuliers.

Bien que le gouvernement fédéral participe à un mouvement général visant à réintégrer le « milieu » aux politiques, il n'a pas encore élaboré d'approche systématique pour y arriver. Mais pourquoi est-il difficile d'intégrer le « milieu » aux politiques?

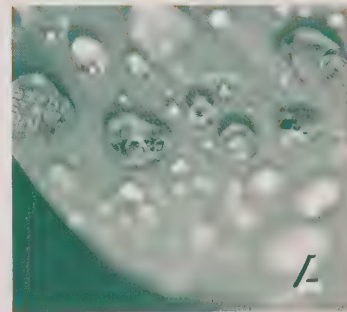
De la réglementation à la facilitation, de l'encadrement au renforcement des capacités, ou simplement en tant que l'un des nombreux partenaires, les Canadiens veulent de plus en plus savoir comment le gouvernement fédéral peut les aider dans leur « milieu ». Il n'est pas facile de concilier tous les rôles potentiels que le gouvernement fédéral peut remplir dans divers milieux; pour que le rôle du gouvernement fédéral soit efficace, nous devons répondre aux questions suivantes :



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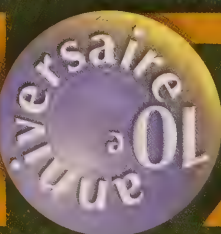
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